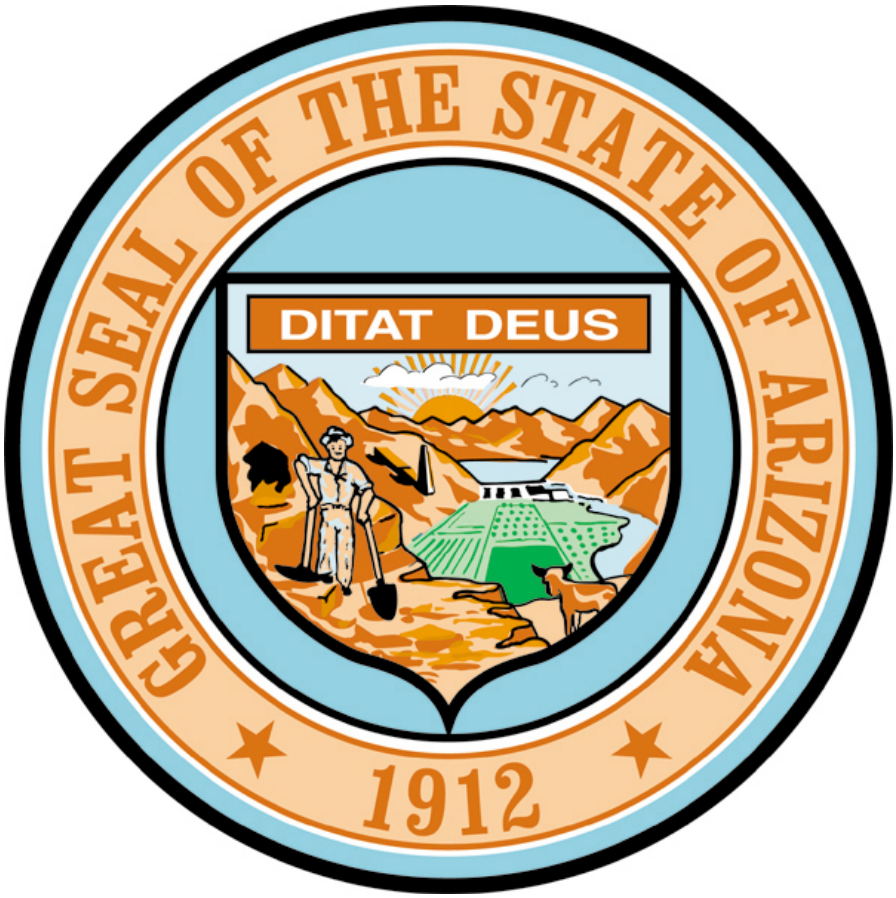

Emergency Medical Services Access Task Force Meeting

November 15, 2006

Emergency Medical Services Access Task Force
Agenda

DATE: November 15, 2006 **TIME:** 1:00 PM

LOCATION: Arizona Department of Health Services, 150 N. 18th Avenue Suite 540-A, Phoenix, AZ

1. CALL TO ORDER

2. TASK FORCE MEMBER ROLL CALL

A. Determination of quorum

3. WELCOME FROM THE CHAIR

4. MEETING MINUTES

A. Review and acceptance of the October 25, 2006 minutes

5. ITEMS

A. Recommendations to increase the number of physicians available to provide emergency department on-call and trauma center services.

B. Other recommendations that would benefit the provision of emergency and trauma services, but are outside the scope of this task force.

C. Timeline and indicators of success.

6. CALL TO THE PUBLIC

A public body may make an open call to the public during a public meeting, subject to reasonable time, place and manner restrictions, to allow individuals to address the public body on any issue within the jurisdiction of the public body. At the conclusion of an open call to the public, individual members of the public body may respond to criticism made by those who have addressed the public body, may ask staff to review a matter, or may ask that a matter be put on a future agenda. Members of the public body shall not discuss or take legal action on matters raised during an open call to the public unless the matters are properly noticed for discussion and legal action. A.R.S. § 38-431.01(G).

7. SUMMARY OF CURENT EVENTS

Members of the public body may present a brief summary of current events. Members of the public body shall not propose, discuss, deliberate, or take legal action on matters raised during a summary of current events unless the matters are properly noticed for discussion and legal action.

Emergency Medical Services Access Task Force
Agenda

8. ANNOUNCEMENT OF NEXT MEETING

A. Wednesday December 13, 2006 @ 1:00 PM (Location to be determined)

10. ADJOURNMENT

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Amanda Valenzuela, Program and Project Specialist, 602-364-3150; State TDD Number 1-800-367-8939; or Voice Relay Number 711. Requests should be made as early as possible to allow time to arrange accommodations.

Emergency Medical Services Access Task Force
Meeting Minutes
October 25, 2006
150 N. 18th Avenue, Suite 540-A
Phoenix, AZ

I. Call to Order

The Emergency Medical Services Access Task Force was called to order by Chairman Chris Skelly at 1:00 p.m.

II. Task Force Member Roll Call

Present:

Chris Skelly	Dr. Bruce Bethancourt	Dr. Charles Finch
Thomas Ryan	Patt Rehn	Richard Polheber
Roy Ryals	Julie Nelson	Dr. Art Pelberg
Anne Winter	January Contreras	Linda Hunt

Absent:

Paul Mullings	Dr. Donald Warne	Judith Berman
Mark Enriquez	Jim Ledbetter	Susan Gerard
Tony Rodgers	Msgr. Richard O'Keeffe	

III. Welcome from the Chair

A. Welcome and opening statement from the Chairman

Chris Skelly welcomed everyone to the meeting and introduced Mary Rimza, MD from Arizona State University and Jim Carland, MD, President and CEO of Medical Insurance Carriers of Arizona (MICA).

IV. Meeting Minutes

A motion was made to accept the minutes of September 25, 2006 with one correction: IV.A. second paragraph remove the last sentence.

Motion carried

V. Items

A. Mary Rimza, MD

Dr. Rimza presented information from the physician supply study that the second part of a series published by the Center for Health Information and Research. The report referred to the issues facing Arizona in regards to the number of physicians practicing in the state and the population growth.

The report will be published at the end of October and Dr. Rimza. The report will be e-mailed to the task force. Further questions relating to the report can be sent to Dr. Rimza at mrimza@asu.edu.

B. Jim Carland, MD

Jim Carland presented a presentation on the functions and services provided through MICA for physicians in Arizona.

C. Review, Discuss and Vote on the Introduction Section of the report

The task force was asked to review and provide recommendations for the draft report executive summary. It was recommended to add specialty and primary physicians rather than just physicians on page one, first bullet point under paragraph three.

Discussion ensued regarding the executive order and the goal(s) the task force was assigned to accomplish when the task force first convened in August. Issues discussed were whether the executive order assigned the task force to search for recommendations to address just the shortage of physicians or also healthcare professionals who serve as resources to emergency departments.

A recommendation was made to reword the first paragraph under introduction on page two.

Recommendation was made to remove the last sentence on the first paragraph on page four. In addition, it was recommended to remove the word “surge” and replace with “volume of” in the last sentence of the second paragraph on page four.

It was recommended to remove “leads to a much increased burden in time and..” in the last sentence of the third paragraph on page four. Add “is a significant problem” to the end of the last sentence of paragraph four.

It was recommended that paragraph two page five be removed and placed in section three of the draft report.

It was recommended that the third sentence in paragraph three page four be verified before it is placed in the report.

It was recommended to reword the last sentence in the first paragraph under section three.

Discussion ensued regarding the ethical obligation of physicians relating to the sentence in line three of the top of page six.

It was recommended to remove the word misuse and replace with use in the first sentence of the first paragraph on page six. In addition, remove capabilities and replace with ability in the second sentence of the third paragraph.

It was suggested to remove slots and replace with programs in the first bullet point under section I.A. on page seven. Discussion ensued regarding increased funding for graduate medical education.

Discussion ensued regarding the creation of a standard application for licensure and credentialing.

Discussion ensued regarding Section I. D. on page eight: Better Utilize Retired and Part-Time Physician Workforce. It was suggested to create a program to re-train physicians who have been out of the practice for years and prove a training program.

D. Review, Discuss and Vote on following recommendation suggestions in the following report: Introduction, Task Force Findings, Task Force Recommendations, Section I: "Recommendations to increase the overall supply of physicians in Arizona"

The task force was asked to review the rest of the draft report and e-mail their suggestions/recommendations to Ron Anderson before the next meeting. The draft report will be e-mailed to the task force as a Word document in order for the task force to submit their changes using track changes on Word.

E. Discussion and Vote on the timeframe for implementation for approval recommendations

The task force was asked to review and submit their recommendation via e-mail to Ron Anderson who will then forward to Julie Nelson. Ms. Nelson will merge all the changes from the task force and have another draft report for the task force to review at the next meeting on November 15, 2006.

VI. Call to the Public

No report given.

VI. Summary of Current Events

No report given.

VII. Announcement of Next Meeting

Next meeting is scheduled for November 15, 2005 at 1:00 p.m. in Suite 540-A

VIII. Adjournment

Meeting adjourned at 4:30 p.m.

DRAFT Executive Summary

On May 25, 2006, Governor Janet Napolitano signed Executive Order 2006-09, forming the Emergency Medical Services Access Task Force ("EMSA Task Force"). The Executive Order recognized that Arizona faces increasing strain on its medical emergency and trauma systems, due in part to the combination of explosive population growth and national and state physician shortages. The Governor charged the EMSA Task Force with assessing the status of the physician supply, including physicians available to hospital emergency departments and trauma services, and developing recommendations to improve the number of physicians who are providing emergency and trauma care in our state.

The Task Force found the following to be major contributing factors to the shortage of physicians serving Arizona's emergency departments and trauma centers:

- **Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics**
- **Limited Physician Supply**
- **Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers**

To address the shortage of physicians in the state and the inadequate number of physicians available to provide on-call services to hospital emergency departments and trauma centers, the Task Force recommends the following solutions:

- **Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona**
- **Enhance Reimbursement for Physicians Serving in Emergency Departments and Trauma Centers**
- **Redesign Relationship between Managed Care Plans and On-Call Physicians**
- **Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services**
- **Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services**
- **Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services**
- **Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community**

In addition to these recommendations specifically designed to improve access to physicians and on-call physician services, the Task Force made several recommendations that are outside the scope of the Task Force. The Task Force raises these recommendations for review and further discussion by the appropriate regulatory bodies. Finally, the EMSA Task Force recommends timelines and various measures of success designed to monitor the effect of its recommendations on Arizona's physician supply.

Applying their own experience and expertise, as well as information gathered by the members from various community resources, the members of the EMSA Task Force recommend specific strategies to implement each of its recommendations. Ultimately, no one strategy or goal will adequately increase physician resources in hospital emergency departments and trauma centers. Stakeholders, including the public, will need to work collaboratively over time to make improvements and assure public access to quality emergency and trauma services throughout Arizona.

Introduction

Arizona's unprecedented current and projected population growth has outstripped the state's ability to attract and train sufficient physicians to practice in the state, particularly in rural and medically underserved areas. Without significant efforts, Arizona's critical service shortfalls will only worsen.

Likewise, Arizona hospitals are experiencing unprecedented demands for emergency and trauma services, exacerbated by a shortage of hospital beds and staff. A particularly acute dimension of this issue is the lack of physicians available and willing to serve emergency department and trauma patients. Unlike past historical practice patterns, today, most Arizona hospitals do not employ the majority of physicians serving on their medical staffs. Hospitals therefore must rely on an adequate number of physicians choosing to become medical staff members and on medical staff bylaws and hospital directives that require medical staff members to serve periodically "on call" in the emergency department. A complex web of federal laws and regulations, reimbursement, liability and credentialing issues, and such matters as funding for graduate medical education, all influence physician availability and willingness. Because of the complexity of these influences, hospitals cannot solve the physician shortage alone. However, solutions may come from meaningful discussion among key stakeholders.

It is commonly accepted that Arizona hospitals already suffer from inadequate emergency room and inpatient capacity and an overall physician shortage. Because demand for access to emergency and trauma services will increase proportionately as Arizona's population grows and ages, a comprehensive assessment and development of strategies is needed now. In order to accomplish this goal, in establishing the EMSA Task Force, Governor Napolitano brings together experienced stakeholders to address likely causes and make recommendations for meaningful improvements.

The EMSA Task Force is not alone in this effort. The Arizona Department of Health Services has formed several working groups to address related hospital overcrowding issues, including hospital throughput, diversion strategies, hospital surge capacity, education and best practices in emergency department management.

Governor Napolitano issued Executive Order 2006-09 on May 25th 2006 to establish the Emergency Medical Services Access Task Force. The Executive Order specifically charges the EMSA Task Force with assessing the status of Arizona's emergency department and trauma center physician supply, identifying factors that may have lead to the current shortage, and making recommendations, including time frames, for actions the State may take to address the situation. The Governor has requested a full report of these findings and recommendations by January 1, 2007.

The members of the Task Force are experienced individuals interested in improving the quality of emergency care in Arizona.

Chairman

The Honorable Christopher M. Skelly (ret.)

Membership

Judith A. Berman, Esq.
Partner, Doyle, Berman, Gallenstein, P.C.

Bruce Bethancourt,M.D.
Past President of The Arizona Medical Association
Regional Medical Director Of Banner Arizona

January Contreras
Health Policy Advisor to the Governor

Mark Enriquez, C.E.P.
Phoenix Fire Department

Charles Finch, D.O. FACOEP
Board Certified Emergency Physician
Scottsdale Emergency Associates

Susan Gerard, Director
Arizona Department of Health Services

Linda Hunt
C.E.O. St. Joseph's Hospital and Medical Center
Arizona Hospital and Health Care Association

Jim Ledbetter
President, Board of Trustees, Verde Valley Medical Center

Julie Nelson, Esq.
Partner, Coppersmith Gordon Schermer Owens & Nelson PLC

Msgr. Richard O'Keefe
Representing Arizona consumer interest

Arthur L. Pelberg, M.D.
President and Chief Medical Officer
Schaller Anderson, Incorporated

Membership Continued

Richard Polheber
Sr. Vice President and C.E.O.
Carondelet Holy Cross Hospital, Nogales, Arizona

Patt Rehn, R.N., MS
Executive Director, Arizona Nurses Association

Anthony Rodgers, Director
Arizona Health Care Cost Containment System

Roy L. Ryals C.E.P.
Director of Emergency Medical Services
Rural/Metro & Southwest Ambulance

Thomas Ryan, Esq.
Representing the Arizona Trial Lawyers Association

Donald Warne, M.D.
Arizona State University

Anne Winter
Vice President, Ovations

Task Force Staff

William R. “Ron” Anderson
Task Force Staff Director
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Amanda Valenzuela
Task Force Administrative Support
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Jack Steele
Task Force ITS Support
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Task Force Findings

The EMSA Task Force identified a set of core factors which they have concluded are likely to have influenced the current shortage of physicians providing medical emergency and trauma services.

I. Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics

Arizona is one of the fastest growing states in the nation. Arizona's population has grown from 3.7 million in 1993 to a population of 5.9 million in 2005. The state's exceptional growth, over a short period of time, has produced many challenges, but one of the most serious involves the state's health care delivery system. Population growth has outpaced healthcare facility construction, workforce training, and physician supply.

Looking to the future, Arizona's elderly, the population with the greatest overall acute health care needs, will triple in size and represent 26% of the state's population by 2050. Based on current and projected population increases, Arizona will certainly need additional hospital beds.

With increased population inevitably comes an increased volume of patients in emergency departments and trauma centers. For most hospitals, the sheer number of patients makes it difficult and sometimes impossible to provide care for emergency department patients in a timely manner. The result is a greater need for physicians to serve those patients, both in the emergency departments themselves and during the inpatient hospital stays that follow for some patients. One component of increased patient volume believed to have an especially significant impact on emergency department crowding is the volume of patients needing urgent psychiatric care services.

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II. Limited Physician Supply

[Chris Skelly to work with Dr. Rimsza to update the data in this section; revise to reflect not only the 2006 report data, but fact that physician numbers are increasing, just not at a high enough rate to meet demand for health care services.] In 2005, there were 13,215 active physicians practicing in Arizona resulting in a physician to population ratio of 219 to 100,000.[1] Arizona's physician to population ratio falls well below the national average. Despite a significant increase in the number of practicing Arizona physicians since 2003, the demand for medical service has outpaced available resources causing a shortage. This shortage of physicians has adversely affected Arizona residents' access to health care services and resulted in a shortage of on-call services available to provide services for the state's emergency departments and trauma centers. For the state to attain the 2005 national average, even if every physician practicing in 2005 remained in practice, the State would need to add 2,200 physicians in 2005. This would require adding slightly more than 440 physicians per year between 2005 and 2010.

[1] *The Arizona Physician Workforce Study – Part I: The Number of Practicing Physicians 1992-2004.* W. Johnson, M. Rimsza, T Garcy, M. Grossman, 2005.

All or part of every county in Arizona has been designated as a Health Profession Shortage Area (HPSA). Thirty-nine Medically Underserved Areas (MUAs) and eleven Medically Underserved Populations (MUPs) have also been designated. In total, there are fifty medically distressed areas in the state. Four counties have been designated as whole county MUAs and two counties as whole county MUPs. Although each county has improved the ratio of physicians to residents between 1992 and 2004, no county in the state has met the 2005 national average.

The EMSA Task Force attributes Arizona's physician shortage to a number of factors. One factor is the limited number of graduate medical education programs and resident training positions in the state. Arizona has only 20 residency positions for every 100,000 people, compared to 25 or more resident training positions for other western states. *(One member asks if this number includes DOs as well.)* To reach even this basic level, Arizona must add 300 new residency positions. Since studies show that a majority of physicians who attend residency programs in Arizona later practice medicine in the state, it is important to attract new physicians with increased and enhanced graduate medical education training opportunities.[2] Indeed, Arizona's resident retention rates are the second best in the country.[3] *(One member thought it was still only about 50% stay in the state after residencies – recommends that that figure be explicit)*

Arizona's medical liability environment may also be an important factor. The Arizona Medical Association and numerous specialty societies consider Arizona to be in need of medical liability reform. This lack of reform may make Arizona less attractive to physicians than other states. *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report]. (One member notes that the ACEP report card could be used here to give some relevance of how we measure up nationally)*

There is some concern that low physician reimbursement for health care services is also a cause of Arizona's physician shortage. Despite the record increase in health insurance premiums for employers of 13.5% each year beginning in 2002, Arizona's managed care plan fee schedules have not kept pace with physician practice expense within the past five years, resulting in an overall decrease in physician reimbursement. For example, Arizona's primary care physicians' adjusted income decreased by 10.2% between 1995 and 2003. [need citation]. *(One member notes that it's not just physician reimbursement but hospital reimbursement as well)*

Finally, physicians also cite barriers to licensing and managed care credentialing as factors in Arizona's physician shortage.

III. Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers

The EMSA Task Force noted an increasing complaint among hospitals about the decreasing numbers of physicians available and willing to serve on-call in emergency departments and trauma centers. Task Force members identified several factors that may deter physicians from serving in an emergency department or trauma center.

[2] [JAMA Article: Anne Winter to provide citation]
[3] Id.

To begin with, physicians often find emergency service unattractive because it involves disruption to both personal life and private practice.[4] The federal EMTALA law and regulations currently require hospitals (and their on-call physicians) to accept emergency transfers from hospitals and communities across the state and beyond, which increases the burden on on-call physicians who are now on-call not only for their own community, but the entire state or country.[5] Once they have evaluated and treated patients in the emergency setting, physicians may be required to continue to see these patients for a period of time until their condition is stabilized or resolved, sometimes without reimbursement. In some instances, such follow-up care is made more difficult by the patient's insurance plan or failure to follow discharge instructions.

As a complicating factor, an increased patient population and use of hospital emergency departments by patients seeking primary care or non-emergent services has placed an unprecedented burden on hospital emergency departments and trauma centers.[6] Many hospitals report that their inpatient units and emergency departments are routinely overcapacity. This increased patient volume further increases the demands on the state's on-call physicians, particularly as the demands of their own practices are also increasing.

Compounding this problem is the fact that hospitals and physicians sometimes have little history and clinical information on emergency department patients, who frequently present with complex medical issues. Finally, uncompensated care for hospitals and busy physician specialists serving the emergency department periodically through an on-call schedule is a significant concern.

Many physicians also contend that emergency department and trauma patients result in increased EMTALA and medical liability to the physician, which the physician is not willing to assume. In a recent informal survey conducted by the Arizona Medical Association, 23% of physicians who do not currently take emergency department calls stated that the primary reason was increased medical liability exposure.[7] *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].*

To cope with these concerns, some physicians are increasingly obtaining selective or narrow medical staff privileges in hospitals, or dropping medical staff privileges altogether. Such a choice reduces the physician's ability to serve patients in the emergency department.[8] Moreover, some specialists have the ability to perform their more lucrative procedures outside of the hospital setting in facilities such as specialty surgical hospitals or other ambulatory care settings, reducing the need for medical staff membership altogether.[9] In an effort to maintain on-call services, as required by federal law, many hospitals now compensate physicians for their on-call services. Irrespective of this effort, hospitals are finding it increasingly difficult to provide on-call physician services in a variety of core services, including, for example, orthopedics and neurosurgery. For fear of losing these specialists from hospital medical staffs altogether, some hospitals are forced to offer physicians less demanding on-call coverage schedules, further reducing patient access to critical on-call physician services.

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[4] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006); Arizona Medical Association, ED Specialist 2006 Survey.
[5] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).
[6] [citation to Dr. Pelberg's charts]
[7] Arizona Medical Association ED Specialist 2006 Survey.
[8] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).
[9] See e.g., Mitchell, J.M., *"Effects of Physician-Owned Limited Service Spine and Orthopedic Hospitals in Oklahoma,"* Georgetown University Public Policy Institute (April 26, 2005).

Task Force Recommendations

EMSA Task Force members provided a variety of recommendations to address the shortage of physicians available to provide on-call services in hospital emergency departments and trauma centers. These recommendations are set forth below. (One member suggests, in addition to this section titled "Recommendations" another section titled: "Recommendations Discussed But Not Unanimous" – This is where issues that do not receive unanimous support could be listed for further discussion)

I. Recommendations to Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona

The shortage of on-call physicians for emergency department and trauma services is directly tied to the overall shortage of physicians in Arizona. Task Force members believe that more rapidly increasing the number of physicians in the state would increase the pool available for emergency department and trauma services. The Task Force recommends that the following recommendations be implemented, in addition to the recommendations set forth elsewhere in this report.

A. *Increase Funding for Graduate Medical Education*

- Increase the number of graduate medical education programs and resident slots, so that a larger number of residents will complete their training in Arizona. Studies show that physicians who rain in a state are more likely to continue their practice in that state. *[Tony Rodgers to work to provide more detail in this section, discussing past legislation and future needs. Need at least 300 new resident positions, at an estimated total cost of $100,000 per resident.]*

- Provide graduate medical education funding to provide "refresher" courses and training programs for physicians who wish to reenter the workforce after a period of years (*e.g.*, semi-retired physicians, physicians who have taken a leave of absence, or physicians who would like to reenter the workforce after a period of years).

B. *Attract and Retain Physicians from Out-of-State*

- Provide "one-stop shopping" service for licensure and credentialing for physicians who wish to practice in Arizona. This may be accomplished through a physician recruitment office or agency, either state or privately funded, that works with the state's two physician licensing boards, managed care plans, and hospitals to provide assistance with the physician licensure, credentialing, and hospital privileging process. The office or agency would review and approve physicians for licensure and credentialing in a manner that is compliant with state licensure requirements, NCQA, JCAHO, and other accreditation standards for physician licensure and credentialing, which would then be accepted by the state's licensing boards and managed care plans.

- Adopt and require the use of a single application for licensure and managed care credentialing, so that physicians do not have to complete multiple applications, similar to those implemented in other states.

- Provide assistance for physicians relocating to Arizona (*e.g.,* real estate agent referrals, physician market information, business assistance and favorable loan terms to physicians who wish to practice in Arizona).

- Establish a state physician loan payment program for physicians willing to practice in the state for at least two years and provide on-call services in the state, assuming that the physician practices in a community where a hospital is located. This program may be tailored to apply to certain types of physicians that are in demand as determined by relevant data (*e.g.*, rural primary care physicians, designated specialists).

- Market Arizona as an attractive place for physicians to practice.

- Provide additional education and assistance to physicians who have just completed their residency programs to assist them in practical obstacles such as joining or opening a medical practice and obtaining managed care contracts.

C. *Reduce Obstacles to Medical Practice in Arizona*

- Provide funding to Arizona's two state physician licensing boards to expedite and streamline the physician licensure process in the event that a single licensure/credentialing process cannot be implemented as described above.

- Assist managed care companies in reducing their initial credentialing timeline by working with NCQA, JCAHO, or other national accrediting agencies to simplify their credentialing procedures, in the event that a single licensure/credentialing process cannot be implemented as described above.

- Require managed care plans to promptly provide retroactive reimbursement for services physicians render to plan subscribers before the physician credentialing process is completed.

D. *Better Utilize Retired and Part-Time Physician Workforce*

- Provide incentives for retired and part-time physicians to continue to provide physician services within the state, consistent with those recommended for all physicians, as described elsewhere in this report.

E. Implement Strategies to Improve Access to Primary Care Providers to Reduce the Need for Physician Services in the State

- Increase Use of Nurse Practitioners

EMSA Task Force members believe that physician workloads could be reduced if there is more effective utilization of nurse practitioners. Nurse practitioners are highly-qualified independent practitioners that can positively impact access to primary care services. In addition, recognition of nurse practitioners as independent practitioners in the field will help reduce the need for emergency department services.

  - Require AHCCCS managed care plans and other private health insurance plans that do business in Arizona to credential and utilize independent nurse practitioners, consistent with the AHCCCS and Medicare reimbursement methodology for these practitioners. Registered nurse practitioners have autonomous practice authority under Arizona law, but if they cannot be reimbursed for their services, they cannot establish financially viable office and clinics to provide primary care services to Arizona residents.

- Require managed care plans to credential, empanel, and reimburse nurse practitioners directly for services.

- Promote efficient use of nurse practitioner services in emergency departments.

- Implement measures similar to physician incentives set forth in this report to increase number of nurse practitioners in the state (*e.g.*, increased education funding, decreased obstacles to practice in the state).

- *Increase of Availability of Other Health Care Providers*

    - EMSA Task Force members believe that physician workloads could be reduced if the shortage of other types of health care providers within the state were adequately addressed. The Task Force recommends that the state continue its efforts to increase the nurse workforce and implement measures to attract other types of health care professionals, including physician assistants, therapists, technicians, and other providers to the state.

THE FOLLOWING SUGGESTED RECOMMENDATIONS ARE NOT FINAL. THE TASK FORCE HAS NOT REVIEWED THE REMAINER OF THE REPORT

II. Recommendations to Increase the Number of Physicians Available to Provide Emergency Department On-Call and Trauma Center Services

A. *Enhance Reimbursement for Physicians Providing Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through appropriate and targeted reimbursement. Discussion items include:

- Provide tax incentives or tax credits to licensed Arizona physicians related to the provision of on-call services. For example, such physicians could receive tax credits related to otherwise uncompensated care they provide, or related to their malpractice premiums.

- Provide supplemental AHCCCS reimbursement to licensed Arizona physicians related to the provision of on-call services to AHCCCS beneficiaries. For example, create a special code or modifier that will designate that on-call physician services are provided, which increases payment for the service rendered by a pre-determined percentage or amount. This reimbursement mechanism may be adopted by other payors.

- Use federal and state funds to create an "indigent care fund" available to hospitals and physicians to offset the cost of uncompensated care provided to emergency and trauma patients.

B. *Redesign Relationship between Managed Care Plans and On-Call Physicians*

- Require managed care plans to streamline their credentialing processes for *locum tenens* physicians who provide on-call services to managed care plan beneficiaries.

- Require managed care plans to reimburse non-contracted physicians for the provision of on-call services to managed care plan beneficiaries.

- Require managed care plans to allow non-contracted on-call physicians to provide follow-up care to patients initially seen in the emergency department or trauma center and reimburse non-contracted physicians for such follow-up care.

- Require managed care plans to assure the availability of sufficient numbers of on-call physicians at network hospitals to provide emergency and follow-up care services to insured patients. Under this approach, insured patients would never or rarely be treated as "unassigned patients" for on-call purposes.

C. *Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through an improved medical liability environment. The exposure to medical malpractice claims and the cost of liability insurance coverage that comes with it is cited by some physicians as a factor that makes providing emergency and trauma center services less attractive in Arizona. Understanding the substantial state constitutional barriers to comprehensive medical malpractice reform, EMSA Task Force members discussed the following as potential solutions to reform Arizona's medical liability environment.

- Increase the burden of proof to "clear and convincing evidence" in civil medical liability cases filed against physicians providing EMTALA-mandated care in emergency departments or in a disaster. This option limits medical liability reform to the emergency department and subsequent treatment of a hospital's emergency department patients. *[Review MICA data to determine whether there is a greater risk of medical liability in emergency care and whether or not rates are escalating in an unprecedented way.]* Supporters believe that this reform is necessary because emergency department patients present unique challenges that make physicians less willing to assume their care, yet preserves the right of emergency patients to receive compensation in the event of malpractice events. Other members of the Task Force question this approach.

- Provide state-funded medical liability coverage for any extra premium paid by physicians providing emergency department on-call or trauma center services.

- Increase the required qualifications for expert witnesses testifying in medical liability lawsuits.

- Petition the Arizona Supreme Court to authorize jury instructions educating juries regarding the unique environment in which on-call physicians practice in the emergency department. *[At least one EMSA Task Force member believes that this instruction falls on the physician's attorney and should not be part of jury instructions].*

- Address medical liability insurer disincentives to physicians providing on-call coverage. There is some evidence that some medical liability insurers charge discount medical liability insurance premiums for physicians who do not provide emergency department or on-call services.

- Clarify Arizona Medical Board and Arizona Osteopathic Board ethical guidelines with respect to whether on-call physicians are obligated to provide follow-up care to emergency department patients. Some physicians have stated a reluctance to provide on-call services for concern that they will have to accept emergency department patients into their private practice and continue to provide care to these patients indefinitely.

D. *Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services*

EMSA Task Force members believe the work environment for physicians providing services in emergency departments and trauma centers could be improved through routine use of electronic health records and telemedicine technology. Discussion items include:

- Implement standardized, comprehensive electronic medical records for use in emergency departments and trauma centers.

- Increase the use of telemedicine in emergency departments and trauma centers to help reduce the need for patient transfers.

E. *Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services*

Current law and practice requires each individual hospital to provide emergency department coverage for its own patients. EMSA Task Force members believe systemic changes could better ensure sufficient access to care in emergency departments and trauma centers. Discussion items include:

- To address the concern that some hospitals do not require physicians to provide on-call services, independently require physicians to provide on-call services at the Arizona Medical Board level (*e.g.*, it is unprofessional conduct for a physician not to provide on-call services unless specifically exempted by a hospital). *[Note: Some EMSA Task Force members believe that this is too strong and may have the opposite, unintended effect of reducing the number of physicians who practice in Arizona.]*

- Authorize the establishment of a combined physician specialist call rotation for all facilities within a geographic area, utilizing a "center for excellence" approach similar to the approach taken by trauma centers and the Arizona Perinatal Trust.

- Develop or authorize shared, community, or regional on-call arrangements in specialties with limited on-call physician availability.

- Limit physician ability to obtain selective or narrowed medical staff privileges if doing so limits their ability to provide frequently needed on-call services.

- Require physicians who provide services in ambulatory surgical centers or licensed outpatient treatment centers, or who provide high risk surgical procedures in private physician offices to maintain active medical staff membership and provide on-call services at a local hospital. This could reduce physician flight from hospitals due to on-call requirements, and ensure that patients transferred from those outpatient settings with emergency conditions will have attending physicians.

- Develop disincentives for hospitals to transfer patients when the transferring hospital has the capability to provide patient care services. *(One member writes: The "devil is in the details" here – I would be cautious about including this – how about "incentives for hospitals to keep patients instead of transferring them.")*

F. *Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community*

EMSA Task Force members believe the shortage of on-call physicians for emergency department and trauma services could be reduced through increased education for emergency department physicians. Discussion items include:

- Provide targeted specialty education for emergency department physicians to increase levels of expertise in common services needed in emergency departments (*e.g.,* behavioral health, orthopedic).

- Provide targeted education for rural physicians to increase levels of expertise in designated specialties to reduce the number of patient transfers from rural hospitals.

III. Other Recommendations That Would Benefit the Provision of Emergency and Trauma Services, But Are Outside the Scope of This Task Force

EMSA Task Force members presented a number of other recommendations designed to improve the provision of emergency and trauma services, but these recommendations were outside of the scope of the task force, as defined in the Executive Order. Some of these recommendations are currently under consideration by other state agency work groups, as noted below.

- Improve hospital infrastructure and resources to improve the flow of patients in the emergency department (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Ensure that emergency departments are used only for higher-acuity patients, not primary care or non-emergent patients (this recommendation is appropriate for referral to the ADHS Steering Committee on Hospital Diversion). To do so, access to primary and non-emergency care services must be improved so that community-based outpatient care resources are readily available, on a more timely basis.

- Provide community education regarding the proper use of hospital emergency departments (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Improve behavioral health patient resources within the state so that behavioral health patients do not have to be treated or held in the emergency department for extended periods of time waiting for appropriate transfer, referral, or state-mandated evaluations. Behavioral health patients place undue strains on Arizona's emergency departments, which is compounded by the lack of available behavioral health inpatient beds and outpatient resources.

- Support efforts to list student nurse practitioners under the same category as medical students in the federal graduate medical education program criteria.

- Monitor emergency department resources by requiring hospitals to report to ADHS certain metrics (*e.g.*, monthly volume, throughput time, patients who leave without treatment, patient boarding hours, ambulance diversion hours, on-call services) and compare state data to available national data (*e.g.*, ED Benchmarking Alliance). This data could be used to improve Arizona's health care delivery system performance (this recommendation is appropriate for review by ADHS' Steering Committee on Hospital Diversion).

- Improve physician supply chain for rural and medically underserved areas through the establishment of new physician offices, clinics, and graduate medical education training in these communities.

- Require and enforce adequate physician specialty and sub-specialty coverage by health plans on outpatient basis, as opposed to relying on hospital emergency departments to supply this care.

Timeline and Indicators of Success

EMSA Task Force members believe that time is of the essence and that the state should take prompt action to increase Arizona's physician supply and address the inadequate number of physicians available to provide on-call services to emergency departments and trauma centers. Accordingly, EMSA recommends that the state implement the recommendations outlined above within the following timeline:

[to come]

In addition, EMSA Task Force members believe that it is necessary to review the effect that these recommendations have on physician availability. Accordingly, EMSA recommends that the state implement the measures of success and evaluate these measures as follows:

[to come; consider recommendation to continue to fund the Center for Health Information and Research, contingent upon the inclusion of specified data elements designed to monitor the success of the Task Force's recommendations]

Conclusion

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A fishbone diagram developed by Arthur Pelberg, MD displaying possible reasons why emergency Department physicians may be frustrated with their job and leaving the State.

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James Carland MD, President and CEO of MICA letter of explanation of what a mutual company is and a history of MICA's evolution in Arizona, submitted by Bruce Bethancourt, MD

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EMSA TASK FORCE
DRAFT REPORT
From Linda Hunt
FOR DISCUSSION ONLY

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EXECUTIVE SUMMARY

On April 26, 2006, Governor Janet Napolitano signed Executive Order 2006-09, forming the Emergency Medical Services Access Task Force ("EMSA Task Force"). The Executive Order recognized that Arizona faces increasing strain on its medical emergency and trauma systems, due in part to the combination of explosive population growth and national and state physician shortages. The Governor charged the EMSA Task Force with assessing the status of the physician supply, including physicians available to hospital emergency departments and trauma services, and developing recommendations to improve the number of physicians who are providing emergency and trauma care in our state.

The Task Force found the following to be major contributing factors to the shortage of physicians serving Arizona's emergency departments and trauma centers:

- ***Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics***
- ***Limited Physician Supply***
- ***Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers***

To address the shortage of physicians in the state and the inadequate number of physicians available to provide on-call services to hospital emergency departments and trauma centers, the Task Force recommends the following solutions:

- ***Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona***
- ***EEnhance Reimbursement for Physicians Serving in Emergency Departments and Trauma Centers***
- ***Redesign Relationship between Managed Care Plans and On-Call Physicians***
- ***Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services***
- ***Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services***

- ***Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services***
- ***Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community***

In addition to these recommendations specifically designed to improve access to physicians and on-call physician services, the Task Force made several recommendations that are outside the scope of the Task Force. The Task Force raises these recommendations for review and further discussion by the appropriate regulatory bodies. Finally, the EMSA Task Force recommends timelines and various measures of success designed to monitor the effect of its recommendations on Arizona's physician supply.

Applying its own experience and expertise, as well as information gathered by the members from various community resources, the EMSA Task Force recommends specific strategies to implement each of its recommendations. Ultimately, no one strategy or goal will reverse the shortage of physician resources in hospital emergency departments and trauma centers. Stakeholders, including the public, will need to work collaboratively over time to make improvements and assure public access to quality emergency and trauma services throughout Arizona.

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INTRODUCTION

Arizona's unprecedented current and projected population growth has outstripped the state's ability to attract and train sufficient physicians to practice in the state, particularly in rural and medically underserved areas. Without significant efforts, Arizona's critical service shortfalls will only worsen.

Likewise, Arizona hospitals are experiencing unprecedented demands for emergency and trauma services, exacerbated by a shortage of hospital beds and staff. A particularly acute dimension of this issue is the lack of physicians available and willing to serve emergency department and trauma patients. Most Arizona hospitals do not employ the majority of physicians serving on their medical staffs. Hospitals therefore must rely on an adequate number of physicians choosing to become medical staff members and on medical staff bylaws and hospital directives that force medical staff members to serve periodically "on call" in the emergency department. A complex web of federal laws and regulations, reimbursement, liability and credentialing issues, and such matters as funding for graduate medical education, all influence physician availability and willingness. Because of the complexity of these influences, hospitals cannot solve the physician shortage alone. However, solutions may come from meaningful discussion among key stakeholders, including the public.

It is commonly accepted that Arizona hospitals already suffer from inadequate emergency room and inpatient capacity and an overall physician shortage. Because demand for access to emergency and trauma services will increase proportionately as Arizona's population grows and ages, a comprehensive assessment and development of strategies is needed now. In order to accomplish this goal, in establishing the EMSA Task Force, Governor Napolitano brings together experienced stakeholders to address likely causes and make recommendations for meaningful improvements.

The EMSA Task Force is not alone in this effort. The Arizona Department of Health Services has formed several working groups to address related hospital overcrowding issues, including hospital throughput, diversion strategies, hospital surge capacity, education and best practices in emergency department management.

EMERGENCY MEDICAL SERVICES ACCESS TASK FORCE

Governor Napolitano issued Executive Order 2006-09 on May 25th 2006 to establish the Emergency Medical Service Access Task Force. The Executive Order specifically charges the EMSA Task Force with assessing the status of Arizona's Emergency Department and Trauma Center physician supply, identifying factors that may have lead to the current shortage, and making recommendations, including time frames, for actions the State may take to address the situation. The Governor has requested a full report of these findings and recommendations by January 1, 2007.

The members of the Task Force are experienced individuals interested in improving the quality of emergency care in Arizona.

[insert updated member list]

TASK FORCE FINDINGS ***[****ALL FINDINGS CONTINUE TO BE DISCUSSION ITEMS ONLY – AT THE NEXT MEETING, THE TASK FORCE WILL DECIDE WHICH WILL BE INCLUDED IN THE FINAL REPORT.****]***

The EMSA Task Force identified a set of core factors which they have concluded are likely to have influenced the current shortage of physicians providing medical emergency and trauma services.

I. Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics

Arizona is one of the fastest growing states in the nation. Arizona's population has grown from 3.7 million in 1993 to a population of 5.9 million in 2005. The state's exceptional growth, over a short period of time, has produced many challenges, but one of the most serious involves the state's health care

delivery system. Population growth continues to outpace healthcare facility construction, workforce training, and physician supply.

Looking to the future, Arizona's elderly, the population with the greatest overall acute health care needs, will triple in size and represent 26% of the state's population by 2050. Based on current and projected population increases, Arizona will need at least additional hospital beds ~~10 additional hospitals~~, in addition to those already contemplated, over the next 10 years. *[Dr. Bethancourt or Dr. Pelberg to confirm with data; otherwise delete sentence]* (*Should be described as the need for beds not hospitals. Who's to say you need 10 hospitals when they all come in different sizes?)*

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With increased population inevitably comes an increased volume of patients in emergency departments and trauma centers. The result is a greater need for physicians to serve those patients, both in the emergency departments themselves and during the inpatient hospital stays that follow for some patients. One component of increased patient volume believed to have an especially significant impact on emergency department crowding is the volume of patients needing urgent psychiatric care services.

For most hospitals, the sheer number of patients makes it difficult and sometimes impossible to provide care for emergency department patients in a timely manner. Compounding this problem is the fact that hospitals and physicians sometimes have little history and clinical information on emergency department patients, who frequently present with complex medical issues. Finally, uncompensated care for hospitals and busy physician specialists serving the emergency department periodically through an on-call schedule is a significant concern.

II. Limited Physician Supply

[Chris Skelly to work with Dr. Rimsza to update the data in this section; revise to reflect not only the 2006 report data, but fact that physician numbers are increasing, just not at a high enough rate to meet demand for health care services.] In 2004, there were 12,024 active physicians practicing in Arizona resulting in a physician to population ratio of 207 to 100,000.[1] The national average in 2004 was 283 to 100,000. This shortage of physicians has adversely affected Arizona residents' access to health care services and resulted in a shortage of on-call services available to provide services for the state's emergency departments and trauma centers. For the state to attain the 2004 national average, even if every physician practicing in 2004 remained in practice until 2020, the State would need to nearly double the number of physicians in the

[1] *The Arizona Physician Workforce Study – Part I: The Number of Practicing Physicians 1992-2004.* W. Johnson, M. Rimsza, T Garcy, M. Grossman, 2005.

State. This would require adding at least 435 physicians per year between 2005 and 2010, and increasing to 668 per year between 2015 and 2020.

All or part of every county in Arizona has been designated as a Health Profession Shortage Area (HPSA). Thirty-nine Medically Underserved Areas (MUAs) and eleven Medically Underserved Populations (MUPs) have also been designated. In total, there are fifty medically distressed areas in the state. Four counties have been designated as whole county MUAs and two counties as whole county MUPs. Although each county has improved the ratio of physicians to residents between 1992 and 2004, no county in the state has met the 2004 national average of 283 physicians to 100,000 people.

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The EMSA Task Force attributes Arizona's physician shortage to a number of factors. One factor is the limited number of graduate medical education programs and resident training positions in the state. Arizona has only 20 residency positions for every 100,000 people, compared to 25 or more resident training positions for other western states (does this figure include Doctors of Osteopathic Medicine?). To reach even this basic level, Arizona must add 300 new residency positions. Since studies show that a majority of physicians who attend residency programs in Arizona later practice medicine in the state, it is important to attract new physicians with increased and enhanced graduate medical education training opportunities.[2] Indeed, Arizona's resident retention rates are the second best in the country.[3] *(I thought it was still only about 50% stay in the state after residencies – that figure should be explicit)*

Deleted: O's

Arizona's medical liability environment is also an important factor. The Arizona Medical Association and numerous specialty societies consider Arizona at risk for a medical liability crisis. This fact may make Arizona less attractive to physicians than other states. *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].(cite the ACEP report card here to give some relevance of how we measure up nationally)*

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There is some evidence that low physician reimbursement for health care services is a cause of Arizona's physician shortage. Despite the record increase in health insurance premiums for employers of 13.5% each year beginning in 2002, Arizona's managed care plan fee schedules have not kept pace with physician practice expense within the past five years, resulting in an overall decrease in physician reimbursement. For example, Arizona's primary care physicians' adjusted income decreased by 10.2% between 1995 and 2003. [need citation]. *(It's not just physician reimbursement but hospital reimbursement as well -)*

[2] [JAMA Article: Anne Winter to provide citation]
[3] Id.

Finally, barriers to licensing and managed care credentialing appear to be additional important factors in Arizona's physician shortage. *(This is a loaded statement with no facts or details to back it up)*

III. Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers

The EMSA Task Force noted an increasing complaint among hospitals about the decreasing numbers of physicians available and willing to serve on-call in emergency departments and trauma centers. Task Force members identified several factors that may deter physicians from serving in an emergency department or trauma center. One is the overall shortage of available physicians, both primary and specialty, which means fewer physicians are available to provide health care services within the state, including physicians available to provide on-call services to Arizona's emergency departments and trauma centers.

Beyond that, physicians often find emergency service unattractive because it involves disruption to both personal life and private practice.[4] The federal EMTALA law and regulations currently require hospitals (and their on-call physicians) to accept emergency transfers from hospitals and communities across the state and beyond, which increases the burden on on-call physicians who are now on-call not only for their own community, but the entire state or country.[5] Once they have evaluated and treated patients in the emergency setting, physicians may be required to continue to see these patients for a period of time until their condition is stabilized or resolved, frequently without reimbursement. In some instances, such follow-up care is made more difficult by the patient's insurance plan or failure to follow discharge instructions.

As a complicating factor, an increased patient population and use of hospital emergency departments by patients seeking primary care or non-emergent services has placed an unprecedented burden on hospital emergency departments and trauma centers.[6] Many hospitals report that their inpatient units and emergency departments are routinely overcapacity. This increased patient volume further increases the demands on the state's on-call physicians, particularly as the demands of their own practices are also increasing.

Many physicians also contend that emergency department and trauma patients result in increased EMTALA and medical liability to the physician, which the physician is not willing to assume. In a recent informal survey conducted by the Arizona Medical Association, 23% of physicians who do not currently take

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[4] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006); Arizona Medical Association, ED Specialist 2006 Survey.
[5] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).
[6] [citation to Dr. Pelberg's charts]

emergency department calls stated that the primary reason was increased medical liability exposure.[7] *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].*

To cope with these concerns, some physicians are increasingly obtaining selective or narrow medical staff privileges in hospitals, or dropping medical staff privileges altogether. Such a choice reduces the physician's abilities to serve patients in the emergency department.[8] Moreover, some specialists have the ability to perform their more lucrative procedures outside of the hospital setting in facilities such as specialty surgical hospitals or other ambulatory care settings, reducing the need for medical staff membership altogether.[9] In an effort to maintain on-call services, as required by federal law, many hospitals now compensate physicians for their on-call services. Irrespective of this effort, hospitals are finding it increasingly difficult to provide on-call physician services in a variety of core services, including, for example, orthopedics and neurosurgery. For fear of losing these specialists from hospital medical staffs altogether, some hospitals are forced to offer physicians less demanding on-call coverage schedules, further reducing patient access to critical on-call physician services.

EMSA TASK FORCE RECOMMENDATIONS *[ALL RECOMMENDATIONS CONTINUE TO BE DISCUSSION ITEMS ONLY – OVER THE NEXT TWO MEETINGS, THE TASK FORCE WILL DECIDE WHICH WILL BE INCLUDED IN THE FINAL REPORT AND UNDER WHAT CATEGORY.]*

EMSA Task Force members provided a variety of recommendations to address the shortage of physicians in Arizona, particularly physicians available to provide on-call services in hospital emergency departments and trauma centers. These recommendations are set forth below.

I. Recommendations to Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona

The shortage of on-call physicians for emergency department and trauma services is directly tied to the overall shortage of physicians. Task Force members believe that increasing the number of physicians in the state could increase the pool available for emergency department and trauma services. The Task Force recommends that the following recommendations be implemented, in addition to the recommendations set forth elsewhere in this report.

A. *Increase Funding for Graduate Medical Education*

[7] Arizona Medical Association ED Specialist 2006 Survey.
[8] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).
[9] See e.g., Mitchell, J.M., *"Effects of Physician-Owned Limited Service Spine and Orthopedic Hospitals in Oklahoma,"* Georgetown University Public Policy Institute (April 26, 2005).

- Increase the number of graduate medical education programs and resident slots, so that a larger number of residents will complete their training in Arizona. Studies show that physicians who train in a state are more likely to continue their practice in that state. *[Tony Rodgers to work to provide more detail in this section, discussing past legislation and future needs. Need at least 300 new resident positions, at an estimated total cost of $100,000 per resident.]*

- Provide graduate medical education funding to provide "refresher" courses and training programs for physicians who wish to reenter the workforce after a period of years (*e.g.*, semi-retired physicians, physicians who have taken a leave of absence, or physicians who would like to reenter the workforce after a period of years).

B. *Attract and Retain Physicians from Out-of-State*

- Provide "one-stop shopping" service for licensure and credentialing for physicians who wish to practice in Arizona. This may be accomplished through a physician recruitment office or agency, either state or privately funded, that works with the state's two physician licensing boards, managed care plans, and hospitals to provide assistance with the physician licensure, credentialing, and hospital privileging process. The office or agency would review and approve physicians for licensure and credentialing in a manner that is compliant with state licensure requirements, NCQA, JCAHO, and other accreditation standards for physician licensure and credentialing, which would then be accepted by the state's licensing boards and managed care plans.

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- Adopt and require the use of a single application for licensure and managed care credentialing, so that physicians do not have to complete multiple applications, similar to those implemented in other states.

- Provide assistance for physicians relocating to Arizona (*e.g.,* real estate agent referrals, physician market information, business assistance and favorable loan terms to physicians who wish to practice in Arizona).

- Establish a state physician loan payment program for physicians willing to practice in the state for at least two years and provide on-call services in the state, assuming that the physician practices in a community where a hospital is located. This program may be tailored to apply to certain types of physicians that are in demand as determined by relevant data (*e.g.*, rural primary care physicians, designated specialists).

- Market Arizona as an attractive place for physicians to practice.

- Provide additional education and assistance to physicians who have just completed their residency programs to assist them in practical obstacles such as joining or opening a medical practice and obtaining managed care contracts.

C. *Reduce Obstacles to Medical Practice in Arizona*

- Provide funding to Arizona's two state physician licensing boards to expedite and streamline the physician licensure process in the event that a single licensure/credentialing process cannot be implemented as described above.

- Assist managed care companies in reducing their initial credentialing timeline by working with NCQA, JCAHO, or other national accrediting agencies to simplify their credentialing procedures, in the event that a single licensure/credentialing process cannot be implemented as described above.

- Require managed care plans to promptly provide retroactive reimbursement for services physicians render to plan subscribers before the physician credentialing process is completed.

D. *Better Utilize Retired and Part-Time Physician Workforce*

- Provide incentives for retired and part-time physicians to continue to provide physician services within the state, consistent with those recommended for all physicians, as described elsewhere in this report.

E. Implement Strategies to Improve Access to Primary Care Providers to Reduce the Need for Physician Services in the State

- *Increase of Use of Nurse Practitioners*

EMSA Task Force members believe that physician workloads could be reduced if there is more effective utilization of nurse practitioners. Nurse practitioners are highly-qualified independent practitioners that can positively impact access to primary care services. In addition, recognition of nurse practitioners as independent practitioners in the field will help reduce the need for emergency department services.

- Require AHCCCS managed care plans and other private health insurance plans that do business in Arizona to credential and utilize independent nurse practitioners, consistent with the AHCCCS and

Medicare reimbursement methodology for these practitioners. Registered nurse practitioners have autonomous practice authority under Arizona law, but if they cannot be reimbursed for their services, they cannot establish financially viable office and clinics to provide primary care services to Arizona residents.

- Require managed care plans to credential, empanel, and reimburse nurse practitioners directly for services.

- Promote efficient use of nurse practitioner services in emergency departments.

- Implement measures similar to physician incentives set forth in this report to increase number of nurse practitioners in the state (*e.g.*, increased education funding, decreased obstacles to practice in the state).

- *Increase of Availability of Other Health Care Providers*

    - EMSA Task Force members believe that physician workloads could be reduced if the shortage of other types of health care providers within the state were adequately addressed. The Task Force recommends that the state continue its efforts to increase the nurse workforce and implement measures to attract other types of health care professionals, including physician assistants, therapists, technicians, and other providers to the state.

II. Recommendations to Increase the Number of Physicians Available to Provide Emergency Department On-Call and Trauma Center Services

A. *Enhance Reimbursement for Physicians Providing Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through appropriate and targeted reimbursement. Discussion items include:

- Provide tax incentives or tax credits to licensed Arizona physicians related to the provision of on-call services. For example, such physicians could receive tax credits related to otherwise uncompensated care they provide, or related to their malpractice premiums.

- Provide supplemental AHCCCS reimbursement to licensed Arizona physicians related to the provision of on-call services to AHCCCS beneficiaries. For example, create a special code or modifier that will designate that on-call physician services are provided, which increases payment for the service rendered by a pre-determined percentage or amount. This reimbursement mechanism may be adopted by other payors.

- Use federal and state funds to create an "indigent care fund" available to hospitals and physicians to offset the cost of uncompensated care provided to emergency and trauma patients.

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B. *Redesign Relationship between Managed Care Plans and On-Call Physicians*

- Require managed care plans to streamline their credentialing processes for *locum tenens* physicians who provide on-call services to managed care plan beneficiaries.

- Require managed care plans to reimburse non-contracted physicians for the provision of on-call services to managed care plan beneficiaries.

- Require managed care plans to allow non-contracted on-call physicians to provide follow-up care to patients initially seen in the emergency department or trauma center and reimburse non-contracted physicians for such follow-up care.

- Require managed care plans to assure the availability of sufficient numbers of on-call physicians at network hospitals to provide emergency and follow-up care services to insured patients. Under this approach, insured patients would never or rarely be treated as "unassigned patients" for on-call purposes.

C. *Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through an improved medical liability environment. The exposure to medical malpractice claims and the cost of liability insurance coverage that comes with it is cited by some physicians as a factor that makes providing emergency and trauma center services less attractive in Arizona. Understanding the substantial state constitutional barriers to comprehensive medical malpractice reform, EMSA Task Force members discussed the following as potential solutions to reform Arizona's medical liability environment.

Increase the burden of proof to "clear and convincing evidence" in civil medical liability cases filed against physicians providing EMTALA-mandated care in emergency departments or in a disaster. This option limits medical liability reform to the emergency department and subsequent treatment of a hospital's emergency department patients. *[Review MICA data to determine whether there is a greater risk of medical liability in emergency care and whether or not rates are escalating in an unprecedented way.]* Supporters believe that this reform is necessary because emergency department patients present unique challenges that make physicians less willing to assume their care, yet preserves the right of emergency patients to receive compensation in the event of malpractice events. Other members of the Task Force question this approach.

Deleted: (We supported this legislation last year)¶

- Provide state-funded medical liability coverage for any extra premium paid by physicians providing emergency department on-call or trauma center services.

- Increase the required qualifications for expert witnesses testifying in medical liability lawsuits.

- Petition the Arizona Supreme Court to authorize jury instructions educating juries regarding the unique environment in which on-call physicians practice in the emergency department. *[At least one EMSA Task Force member believes that this instruction falls on the physician's attorney and should not be part of jury instructions].*

- Address medical liability insurer disincentives to physicians providing on-call coverage. There is some evidence that some medical liability insurers charge discount medical liability insurance premiums for physicians who do not provide emergency department or on-call services.

- Clarify Arizona Medical Board and Arizona Osteopathic Board ethical guidelines with respect to whether on-call physicians are obligated to provide follow-up care to emergency department patients. Some physicians have stated a reluctance to provide on-call services for concern that they will have to accept emergency department patients into their private practice and continue to provide care to these patients indefinitely.

D. *Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services*

EMSA Task Force members believe the work environment for physicians providing services in emergency departments and trauma centers could be

improved through routine use of electronic health records and telemedicine technology. Discussion items include:

- Implement standardized, comprehensive electronic medical records for use in emergency departments and trauma centers.

- Increase the use of telemedicine in emergency departments and trauma centers to help reduce the need for patient transfers.

E. *Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services*

Current law and practice requires each individual hospital to provide emergency department coverage for its own patients. EMSA Task Force members believe systemic changes could better ensure sufficient access to care in emergency departments and trauma centers. Discussion items include:

- To address the concern that some hospitals do not require physicians to provide on-call services, independently require physicians to provide on-call services at the Arizona Medical Board level (*e.g.*, it is unprofessional conduct for a physician not to provide on-call services unless specifically exempted by a hospital). *[Note: Some EMSA Task Force members believe that this is too strong and may have the opposite, unintended effect of reducing the number of physicians who practice in Arizona.]*

- Authorize the establishment of a combined physician specialist call rotation for all facilities within a geographic area, utilizing a "center for excellence" approach similar to the approach taken by trauma centers and the Arizona Perinatal Trust.

- Develop or authorize shared, community, or regional on-call arrangements in specialties with limited on-call physician availability.

- Limit physician ability to obtain selective or narrowed medical staff privileges if doing so limits their ability to provide frequently needed on-call services.

- Require physicians who provide services in ambulatory surgical centers or licensed outpatient treatment centers, or who provide high risk surgical procedures in private physician offices to maintain active medical staff membership and provide on-call services at a local hospital. This could reduce physician flight from hospitals due to on-call requirements, and ensure that patients transferred from those outpatient settings with emergency conditions will have attending physicians.

- Develop disincentives for hospitals to transfer patients when the transferring hospital has the capability to provide patient care services. (The "devil is in the details" here – I would be cautious about including this – how about "incentives for hospitals to keep patients instead of transferring them."

F. *Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community*

EMSA Task Force members believe the shortage of on-call physicians for emergency department and trauma services could be reduced through increased education for emergency department physicians. Discussion items include:

- Provide targeted specialty education for emergency department physicians to increase levels of expertise in common services needed in emergency departments (*e.g.,* behavioral health, orthopedic).

- Provide targeted education for rural physicians to increase levels of expertise in designated specialties to reduce the number of patient transfers from rural hospitals.

III. Other Recommendations That Would Benefit the Provision of Emergency and Trauma Services, But Are Outside the Scope of This Task Force

EMSA Task Force members presented a number of other recommendations designed to improve the provision of emergency and trauma services, but these recommendations were outside of the scope of the task force, as defined in the Executive Order. Some of these recommendations are currently under consideration by other state agency work groups, as noted below.

- Improve hospital infrastructure and resources to improve the flow of patients in the emergency department (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Ensure that emergency departments are used only for higher-acuity patients, not primary care or non-emergent patients (this recommendation is appropriate for referral to the ADHS Steering Committee on Hospital Diversion). To do so, access to primary and non-emergency care services must be improved so that community-based outpatient care resources are readily available, on a more timely basis.

- Provide community education regarding the proper use of hospital emergency departments (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Improve behavioral health patient resources within the state so that behavioral health patients do not have to be treated or held in the emergency department for extended periods of time waiting for appropriate transfer, referral, or state-mandated evaluations. Behavioral health patients place undue strains on Arizona's emergency departments, which is compounded by the lack of available behavioral health inpatient beds and outpatient resources.

- Support efforts to list student nurse practitioners under the same category as medical students in the federal graduate medical education program criteria.

- Monitor emergency department resources by requiring hospitals to report to ADHS certain metrics (*e.g.*, monthly volume, throughput time, patients who leave without treatment, patient boarding hours, ambulance diversion hours, on-call services) and compare state data to available national data (*e.g.*, ED Benchmarking Alliance). This data could be used to improve Arizona's health care delivery system performance (this recommendation is appropriate for review by ADHS' Steering Committee on Hospital Diversion).

- Improve physician supply chain for rural and medically underserved areas through the establishment of new physician offices, clinics, and graduate medical education training in these communities.

- Require and enforce adequate physician specialty and sub-specialty coverage by health plans on outpatient basis, as opposed to relying on hospital emergency departments to supply this care.

IV. Timeline and Indicators of Success

EMSA Task Force members believe that time is of the essence and that the state should take prompt action to increase Arizona's physician supply and address the inadequate number of physicians available to provide on-call services to emergency departments and trauma centers. Accordingly, EMSA recommends that the state implement the recommendations outlined above within the following timeline:

[to come]

In addition, EMSA Task Force members believe that it is necessary to review the effect that these recommendations have on physician availability.

Accordingly, EMSA recommends that the state implement the measures of success and evaluate these measures as follows:

[to come; consider recommendation to continue to fund the Center for Health Information and Research, contingent upon the inclusion of specified data elements designed to monitor the success of the Task Force's recommendations]

V. Conclusion

[to come]

EMSA TASK FORCE
DRAFT REPORT
From Dr. Bruce Bethancourt

Executive Summary

On May 25, 2006, Governor Janet Napolitano signed Executive Order 2006-09, forming the Emergency Medical Services Access Task Force ("EMSA Task Force"). The Executive Order recognized that Arizona faces increasing strain on its medical emergency and trauma systems, due in part to the combination of explosive population growth and national and state physician shortages. The Governor charged the EMSA Task Force with assessing the status of the physician supply, including physicians available to hospital emergency departments and trauma services, and developing recommendations to improve the number of physicians who are providing emergency and trauma care in our state.

The Task Force found the following to be major contributing factors to the shortage of physicians serving Arizona's emergency departments and trauma centers:

- **Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics**
- **Limited Physician Supply**
- **Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers**

To address the shortage of physicians in the state and the inadequate number of physicians available to provide on-call services to hospital emergency departments and trauma centers, the Task Force recommends the following solutions:

- **Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona**
- **Enhance Reimbursement for Physicians Serving in Emergency Departments and Trauma Centers**
- **Redesign Relationship between Managed Care Plans and On-Call Physicians**
- **Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services**
- **Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services**
- **Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services**
- **Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community**

In addition to these recommendations specifically designed to improve access to physicians and on-call physician services, the Task Force made several recommendations that are outside the scope of the Task Force. The Task Force raises these recommendations for review and further discussion by the appropriate regulatory bodies. Finally, the EMSA Task Force recommends timelines and various measures of success designed to monitor the effect of its recommendations on Arizona's physician supply.

Applying their own experience and expertise, as well as information gathered by the members from various community resources, the members of the EMSA Task Force recommend specific strategies to implement each of its recommendations. Ultimately, no one strategy or goal will adequately increase physician resources in hospital emergency departments and trauma centers. Stakeholders, including the public, will need to work collaboratively over time to make improvements and assure public access to quality emergency and trauma services throughout Arizona.

Introduction

Arizona's unprecedented current and projected population growth has outstripped the state's ability to attract and train sufficient physicians to practice in the state, particularly in rural and medically underserved areas. Without significant efforts, Arizona's critical service shortfalls will only worsen.

Likewise, Arizona hospitals are experiencing unprecedented demands for emergency and trauma services, exacerbated by a shortage of hospital beds and staff. A particularly acute dimension of this issue is the lack of physicians available and willing to serve emergency department and trauma patients. Unlike past historical practice patterns, today, most Arizona hospitals do not employ the majority of physicians serving on their medical staffs. Hospitals therefore must rely on an adequate number of physicians choosing to become medical staff members and on medical staff bylaws and hospital directives that require medical staff members to serve periodically "on call" in the emergency department. A complex web of federal laws and regulations, reimbursement, liability and credentialing issues, and such matters as funding for graduate medical education, all influence physician availability and willingness. Because of the complexity of these influences, hospitals cannot solve the physician shortage alone. However, solutions may come from meaningful discussion among key stakeholders.

It is commonly accepted that Arizona hospitals already suffer from inadequate emergency room and inpatient capacity and an overall physician shortage. Because demand for access to emergency and trauma services will increase proportionately as Arizona's population grows and ages, a comprehensive assessment and development of strategies is needed now. In order to accomplish this goal, in establishing the EMSA Task Force, Governor Napolitano brings together experienced stakeholders to address likely causes and make recommendations for meaningful improvements.

The EMSA Task Force is not alone in this effort. The Arizona Department of Health Services has formed several working groups to address related hospital overcrowding issues, including hospital throughput, diversion strategies, hospital surge capacity, education and best practices in emergency department management.

Governor Napolitano issued Executive Order 2006-09 on May 25th 2006 to establish the Emergency Medical Services Access Task Force. The Executive Order specifically charges the EMSA Task Force with assessing the status of Arizona's emergency department and trauma center physician supply, identifying factors that may have lead to the current shortage, and making recommendations, including time frames, for actions the State may take to address the situation. The Governor has requested a full report of these findings and recommendations by January 1, 2007.

The members of the Task Force are experienced individuals interested in improving the quality of emergency care in Arizona.

Chairman

The Honorable Christopher M. Skelly (ret.)

Membership

Judith A. Berman, Esq.
Partner, Doyle, Berman, Gallenstein, P.C.

Bruce Bethancourt,M.D.
Past President of The Arizona Medical Association
Regional Medical Director Of Banner Arizona

January Contreras
Health Policy Advisor to the Governor

Mark Enriquez, C.E.P.
Phoenix Fire Department

Charles Finch, D.O. FACOEP
Board Certified Emergency Physician
Scottsdale Emergency Associates

Susan Gerard, Director
Arizona Department of Health Services

Linda Hunt
C.E.O. St. Joseph's Hospital and Medical Center
Arizona Hospital and Health Care Association

Jim Ledbetter
President, Board of Trustees, Verde Valley Medical Center

Julie Nelson, Esq.
Partner, Coppersmith Gordon Schermer Owens & Nelson PLC

Msgr. Richard O'Keefe
Representing Arizona consumer interest

Arthur L. Pelberg, M.D.
President and Chief Medical Officer
Schaller Anderson, Incorporated

Membership Continued

Richard Polheber
Sr. Vice President and C.E.O.
Carondelet Holy Cross Hospital, Nogales, Arizona

Patt Rehn, R.N., MS
Executive Director, Arizona Nurses Association

Anthony Rodgers, Director
Arizona Health Care Cost Containment System

Roy L. Ryals C.E.P.
Director of Emergency Medical Services
Rural/Metro & Southwest Ambulance

Thomas Ryan, Esq.
Representing the Arizona Trial Lawyers Association

Donald Warne, M.D.
Arizona State University

Anne Winter
Vice President, Ovations

Task Force Staff

William R. “Ron” Anderson
Task Force Staff Director
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Amanda Valenzuela
Task Force Administrative Support
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Jack Steele
Task Force ITS Support
Arizona Department of Health Services
Bureau of Emergency Medical Services & Trauma System

Task Force Findings

The EMSA Task Force identified a set of core factors which they have concluded are likely to have influenced the current shortage of physicians providing medical emergency and trauma services.

I. Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics

Arizona is one of the fastest growing states in the nation. Arizona's population has grown from 3.7 million in 1993 to a population of 5.9 million in 2005. The state's exceptional growth, over a short period of time, has produced many challenges, but one of the most serious involves the state's health care delivery system. Population growth has outpaced healthcare facility construction, workforce training, and physician supply.

Looking to the future, Arizona's elderly, the population with the greatest overall acute health care needs, will triple in size and represent 26% of the state's population by 2050. Based on current and projected population increases, Arizona will certainly need additional hospital beds.

With increased population inevitably comes an increased volume of patients in emergency departments and trauma centers. For most hospitals, the sheer number of patients makes it difficult and sometimes impossible to provide care for emergency department patients in a timely manner. The result is a greater need for physicians to serve those patients, both in the emergency departments themselves and during the inpatient hospital stays that follow for some patients. One component of increased patient volume believed to have an especially significant impact on emergency department crowding is the volume of patients needing urgent psychiatric care services.

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II. Limited Physician Supply

[Chris Skelly to work with Dr. Rimsza to update the data in this section; revise to reflect not only the 2006 report data, but fact that physician numbers are increasing, just not at a high enough rate to meet demand for health care services.] In 2005, there were 13,215 active physicians practicing in Arizona resulting in a physician to population ratio of 219 to 100,000.1[1] Arizona's physician to population ratio falls well below the national average. Despite a significant increase in the number of practicing Arizona physicians since 2003,

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1[1] *The Arizona Physician Workforce Study – Part I: The Number of Practicing Physicians 1992-2004.* W. Johnson, M. Rimsza, T Garcy, M. Grossman, 2005.

the demand for medical service has outpaced available resources causing a shortage. This shortage of physicians has adversely affected Arizona residents' access to health care services and resulted in a shortage of on-call services available to provide services for the state's emergency departments and trauma centers. For the state to attain the 2005 national average, even if every physician practicing in 2005 remained in practice, the State would need to add 2,200 physicians in 2005. This would require adding slightly more than 440 physicians per year between 2005 and 2010.

Task Force Findings Continued

All or part of every county in Arizona has been designated as a Health Profession Shortage Area (HPSA). Thirty-nine Medically Underserved Areas (MUAs) and eleven Medically Underserved Populations (MUPs) have also been designated. In total, there are fifty medically distressed areas in the state. Four counties have been designated as whole county MUAs and two counties as whole county MUPs. Although each county has improved the ratio of physicians to residents between 1992 and 2004, no county in the state has met the 2005 national average..

The EMSA Task Force attributes Arizona's physician shortage to a number of factors. One factor is the limited number of graduate medical education programs and resident training positions in the state. Arizona has only 20 residency positions for every 100,000 people, compared to 25 or more resident training positions for other western states. (*One member asks if this number includes DOs as well.)* To reach even this basic level, Arizona must add 300 new residency positions. Since studies show that a majority of physicians who attend residency programs in Arizona later practice medicine in the state, it is important to attract new physicians with increased and enhanced graduate medical education training opportunities.2[2] Indeed, Arizona's resident retention rates are the second best in the country.3[3] (*One member thought it was still only about 50% stay in the state after residencies – recommends that that figure be explicit)*

Arizona's medical liability environment may also be an important factor. The Arizona Medical Association and numerous specialty societies consider Arizona to be in need of medical liability reform. This lack of reform may make Arizona less attractive to physicians than other states. *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report]. (One member notes that the ACEP report card could be used here to give some relevance of how we measure up nationally)*

There is some concern that low physician reimbursement for health care services is also a cause of Arizona's physician shortage. Despite the record increase in health insurance premiums for employers of 13.5% each year beginning in 2002, Arizona's managed care plan fee schedules have not kept pace with physician practice expense within the past five years, resulting in an overall decrease in physician reimbursement. For example, Arizona's primary

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2[2] [JAMA Article: Anne Winter to provide citation]
3[3] Id.

care physicians' adjusted income decreased by 10.2% between 1995 and 2003. [need citation]. *(One member notes that it's not just physician reimbursement but hospital reimbursement as well)*

Finally, physicians also cite barriers to licensing and managed care credentialing as factors in Arizona's physician shortage.

III. Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers

The EMSA Task Force noted an increasing complaint among hospitals about the decreasing numbers of physicians available and willing to serve on-call in emergency departments and trauma centers. Task Force members identified several factors that may deter physicians from serving in an emergency department or trauma center.

Task Force Findings Continued

To begin with, physicians often find emergency service unattractive because it involves disruption to both personal life and private practice.4[4] The federal EMTALA law and regulations currently require hospitals (and their on-call physicians) to accept emergency transfers from hospitals and communities across the state and beyond, which increases the burden on on-call physicians who are now on-call not only for their own community, but the entire state or country.5[5] Once they have evaluated and treated patients in the emergency setting, physicians may be required to continue to see these patients for a period of time until their condition is stabilized or resolved, sometimes without reimbursement. In some instances, such follow-up care is made more difficult by the patient's insurance plan or failure to follow discharge instructions.

As a complicating factor, an increased patient population and use of hospital emergency departments by patients seeking primary care or non-emergent services has placed an unprecedented burden on hospital emergency departments and trauma centers.6[6] Many hospitals report that their inpatient units and emergency departments are routinely overcapacity. This increased patient volume further increases the demands on the state's on-call physicians, particularly as the demands of their own practices are also increasing.

Compounding this problem is the fact that hospitals and physicians sometimes have little history and clinical information on emergency department patients, who frequently present with complex medical issues. Finally, uncompensated care for hospitals and busy physician specialists serving the emergency department periodically through an on-call schedule is a significant concern.

Many physicians also contend that emergency department and trauma patients result in increased EMTALA and medical liability to the physician, which the physician is not willing to assume. In a recent informal survey conducted by the Arizona Medical Association, 23% of physicians who do not currently take emergency department calls stated that the primary reason was increased medical liability exposure.7[7] *[Some EMSA Task Force Members disagree with*

4[4] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006); Arizona Medical Association, ED Specialist 2006 Survey.
5[5] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).
6[6] [citation to Dr. Pelberg's charts]
7[7] Arizona Medical Association ED Specialist 2006 Survey.

this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].

How could any member disagree with the facts of the ARMA's satistacally significant survey that is collaborated with many other surveys?

This opionion is substantiated by not only ARMA's survey but many others:

- ***1) LIABILITY ISSUES:***

Emergency doctors seek help from Congress in liability fight

New legislation would provide insurance relief and extra funds for the uninsured, and help reduce crowding, supporters say.

By Joel B. Finkelstein, *AMNews* correspondent. Oct. 17, 2005.

"The problems are many, including a dramatic rise in liability premiums that has made it more difficult for emergency departments to maintain financial viability. Add to that rising health care costs, which have hurt access to primary care services, and therefore increased case loads at emergency departments, he said.

The legislation would provide some relief from the liability crisis by bringing emergency physicians and nurses under the umbrella of the Federal Tort Claims Act, which established a fund to pay litigation costs. The act originally was created to cover the cost of lawsuits against government employees but later was expanded to full-time staff physicians serving federally qualified health centers. The bill would extend that coverage to emergency department staff when caring for uninsured patients"

To cope with these concerns, some physicians are increasingly obtaining selective or narrow medical staff privileges in hospitals, or dropping medical staff privileges altogether. Such a choice reduces the physician's ability to serve patients in the emergency department.8[8] Moreover, some specialists have the ability to perform their more lucrative procedures outside of the hospital setting in facilities such as specialty surgical hospitals or other ambulatory care settings,

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8[8] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).

reducing the need for medical staff membership altogether.9[9] In an effort to maintain on-call services, as required by federal law, many hospitals now compensate physicians for their on-call services. Irrespective of this effort, hospitals are finding it increasingly difficult to provide on-call physician services in a variety of core services, including, for example, orthopedics and neurosurgery. For fear of losing these specialists from hospital medical staffs altogether, some hospitals are forced to offer physicians less demanding on-call coverage schedules, further reducing patient access to critical on-call physician services.

PROFESSIONAL ISSUES

Ohio physicians fight back: Panel documents frivolous lawsuits

The aim is to set a legal precedent that will encourage physicians and discourage lawyers.

By Tanya Albert, *AMNews* staff. Feb. 16, 2004.

Wanted: Blatant examples of frivolous medical malpractice lawsuits filed against Ohio physicians.

Reward: A chance to recover the money spent defending the lawsuit and put lawyers on notice that physicians are going to stand up to meritless suits.

"We are looking to find the most egregious cases to bring forth as test cases in the court and shed light on the issue," said Almeta E. Cooper, the Ohio State Medical Assn.'s general counsel.

OSMA hopes that its newly formed Frivolous Lawsuit Committee will give Ohio lawyers a disincentive to file baseless cases. The committee is believed to be the first of its kind formed by a state medical association.

OSMA is responding to an increasing number of physician members concerned that they are being named in "shotgun" lawsuits that include every physician listed on a chart. They also know of a few instances in which physicians were included even when their names weren't in the chart.

Frivolous suits are a common complaint among doctors nationwide. Physicians and insurers say these cases are contributing to rising medical liability insurance costs that

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9[9] See e.g., Mitchell, J.M., *"Effects of Physician-Owned Limited Service Spine and Orthopedic Hospitals in Oklahoma,"* Georgetown University Public Policy Institute (April 26, 2005).

are forcing doctors to retire early, discontinue high-risk services or move to states that have enacted tort reform.

They point out that it still costs insurance companies thousands of dollars to defend lawsuits that are eventually dismissed.

"More than the money, physicians have to shut down their offices to defend the suits, and it's an emotional strain," said Findlay, Ohio, internist William Kose, MD, who has a law degree and is serving on the Frivolous Lawsuit Committee. "Physicians take lawsuits personally. Someone is telling them they did not do their job properly."

But few physicians have challenged lawyers, and the success rate among physicians who have is small. OSMA hopes to change that.

Since OSMA late last year put out the call to physicians to send examples of lawsuits in which they believe they should not be defendants, the committee has received more than 40 cases to review. They expect more.

The first test case

OSMA has already joined Columbus, Ohio, intensive care specialist Victoria Ruff, MD, in a court action.

The medical society helped Dr. Ruff and her attorneys file a "motion for sanctions for frivolous conduct" against the plaintiff and attorney who named her in a lawsuit in a case in which she was not involved until she was called when the patient was coding. The motion was filed in December 2003 and could result in reimbursement of her court costs. OSMA will continue to offer assistance as the request winds through the court.

The association got involved because the case seemed to have all of the right ingredients, Cooper said.

A helicopter transferred the patient from Cleveland to Columbus. Blood was not flowing properly to his lower extremities; he had cardiovascular disease and diabetes.

He went to the intensive care unit in the middle of the night. Dr. Ruff said she was involved with the patient for 15 minutes before he died.

Months later, she became one of 23 people in Columbus and Cleveland named in a lawsuit. Immediately, she asked her lawyer to get her removed. It took 17 months, six motions and a deposition during which she told the plaintiffs attorneys she had nothing to add to the case before her name was dropped.

During that time, though, her medical liability insurance came up for renewal. And she was named in another lawsuit and again removed before the case went to trial.

The insurer told her and her partners that it would not renew their contract. They had to scramble to find a new insurer. When they signed with the new company, they had to switch from a less expensive occurrence policy to a more expensive claims-made policy. Dr. Ruff's premiums doubled after the first year and continue to climb. Also, the new policy would require her to pay tail coverage if she decides to change companies again.

Consequently, Dr. Ruff can show financial damage for having been named in two lawsuits that were ultimately dropped.

Laying the groundwork for others

In addition to Dr. Ruff's case, OSMA expects to get involved in a second case in coming months, Cooper said.

OSMA says it isn't suggesting that there aren't legitimate cases in which it might not be clear-cut whether a certain physician should be named in a lawsuit.

But "when someone brings a shotgun lawsuit, the lawyer doesn't make a good-faith effort to find out what happened before it is filed," Cooper said. "In the past, there hasn't been any disincentive for lawyers to do this."

OSMA knows that proving these cases is often difficult. Courts want plaintiffs to be able to bring claims in good faith without the fear of being sanctioned. That is why they are looking for the most egregious examples.

Few cases have been filed so far because doctors are reluctant to do so. Their insurance won't cover the costs, and they are emotionally drained from fighting the initial lawsuit.

Dr. Ruff and others, though, believe the climate is ripe for change.

"If there is a positive outcome, more physicians will be willing to do this," Dr. Ruff said. "And this is a way for organized medicine to say, 'This is what we are doing.

[If ther was no evidence for increase Liability, why would Medical Liabilty premiums increase?]

- 2) PHYSICIANS EFFECTED BY LACK OF REIMBUREMENT SECONDARY TO UNFUNDED FEDERAL MANDATES:

GOVERNMENT & MEDICINE

EMTALA costs physicians billions in unreimbursed care

Doctors seek better compensation to make up for the bad debt they incur caring for patients in emergency settings.

By Markian Hawryluk, *AMNews* staff. June 2/9, 2003.

EMTALA's financial toll

Emergency physicians lost the most because of EMTALA regulations in 2001, but doctors in other specialties also incurred bad debt as a result of the law.

Specialty	Physicians affected	Average bad debt from EMTALA
Emergency medicine	100%	$138,300
General surgery	76%	$25,600
Anesthesiology	69%	$16,500
Obstetrics-gynecology	52%	$4,100
Radiology	47%	$22,000
Internal medicine	34%	$7,000
General/family practice	31%	$4,700
Pediatrics	23%	$2,400
Pathology	13%	$3,400
Psychiatry	11%	$1,200
Other specialties	5%	$4,500
All physicians	**42%**	**$12,300**

Task Force Recommendations

EMSA Task Force members provided a variety of recommendations to address the shortage ofphysicians available to provide on-call services in hospital emergency departments and trauma centers. These recommendations are set forth below. (One member suggests, in addition to this section titled "Recommendations" another section titled: "Recommendations Discussed But Not Unanimous" – This is where issues that do not receive unanimous support could be listed for further discussion)

I. Recommendations to Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona

The shortage of on-call physicians for emergency department and trauma services is directly tied to the overall shortage of physicians in Arizona. Task Force members believe that more rapidly increasing the number of physicians in the state would increase the pool available for emergency department and trauma services. The Task Force recommends that the following recommendations be implemented, in addition to the recommendations set forth elsewhere in this report.

A. *Increase Funding for Graduate Medical Education*

- Increase the number of graduate medical education programs and resident slots, so that a larger number of residents will complete their training in Arizona. Studies show that physicians who rain in a state are more likely to continue their practice in that state. *[Tony Rodgers to work to provide more detail in this section, discussing past legislation and future needs. Need at least 300 new resident positions, at an estimated total cost of $100,000 per resident.]*

- Provide graduate medical education funding to provide "refresher" courses and training programs for physicians who wish to reenter the workforce after a period of years (*e.g.*, semi-retired physicians, physicians who have taken a leave of absence, or physicians who would like to reenter the workforce after a period of years).

B. *Attract and Retain Physicians from Out-of-State*

- Provide "one-stop shopping" service for licensure and credentialing for physicians who wish to practice in Arizona. This may be accomplished through a physician recruitment

office or agency, either state or privately funded, that works with the state's two physician licensing boards, managed care plans, and hospitals to provide assistance with the physician licensure, credentialing, and hospital privileging process. The office or agency would review and approve physicians for licensure and credentialing in a manner that is compliant with state licensure requirements, NCQA, JCAHO, and other accreditation standards for physician licensure and credentialing, which would then be accepted by the state's licensing boards and managed care plans.

- Adopt and require the use of a single application for licensure and managed care credentialing, so that physicians do not have to complete multiple applications, similar to those implemented in other states.

- Provide assistance for physicians relocating to Arizona (*e.g.,* real estate agent referrals, physician market information, business assistance and favorable loan terms to physicians who wish to practice in Arizona).

- Establish a state physician loan payment program for physicians willing to practice in the state for at least two years and provide on-call services in the state, assuming that the physician practices in a community where a hospital is located. This program may be tailored to apply to certain types of physicians that are in demand as determined by relevant data (*e.g.*, rural primary care physicians, designated specialists).

- Market Arizona as an attractive place for physicians to practice.

- Provide additional education and assistance to physicians who have just completed their residency programs to assist them in practical obstacles such as joining or opening a medical practice and obtaining managed care contracts.

C. ***Reduce Obstacles to Medical Practice in Arizona***

- Provide funding to Arizona's two state physician licensing boards to expedite and streamline the physician licensure process in the event that a single licensure/credentialing process cannot be implemented as described above.

- Assist managed care companies in reducing their initial credentialing timeline by working with NCQA, JCAHO, or other national accrediting agencies to simplify their credentialing procedures, in the event that a single licensure/credentialing process cannot be implemented as described above.

- Require managed care plans to promptly provide retroactive reimbursement for services physicians render to plan subscribers before the physician credentialing process is completed.

D. ***Better Utilize Retired and Part-Time Physician Workforce***

- Provide incentives for retired and part-time physicians to continue to provide physician services within the state, consistent with those recommended for all physicians, as described elsewhere in this report.

E. *Implement Strategies to Improve Access to Primary Care Providers to Reduce the Need for Physician Services in the State*

- Increase Use of Nurse Practitioners

EMSA Task Force members believe that physician workloads could be reduced if there is more effective utilization of nurse practitioners. Nurse practitioners are highly-qualified independent practitioners that can positively impact access to primary care services. In addition, recognition of nurse practitioners as independent practitioners in the field will help reduce the need for emergency department services.

- Require AHCCCS managed care plans and other private health insurance plans that do business in Arizona to credential and utilize independent nurse practitioners, consistent with the AHCCCS and Medicare reimbursement methodology for these practitioners. Registered nurse practitioners have autonomous practice authority under Arizona law, but if they cannot be reimbursed for their services, they cannot establish financially viable office and clinics to provide primary care services to Arizona residents.

- Require managed care plans to credential, empanel, and reimburse nurse practitioners directly for services.

- Promote efficient use of nurse practitioner services in emergency departments.

- Implement measures similar to physician incentives set forth in this report to increase number of nurse practitioners in the state (*e.g.*, increased education funding, decreased obstacles to practice in the state).

- *Increase of Availability of Other Health Care Providers*

    - EMSA Task Force members believe that physician workloads could be reduced if the shortage of other types of health care providers within the state were adequately addressed. The Task Force recommends that the state continue its efforts to increase the nurse workforce and implement measures to attract other types of health care professionals, including physician assistants, therapists, technicians, and other providers to the state.

THE FOLLOWING SUGGESTED RECOMMENDATIONS ARE NOT FINAL. THE TASK FORCE HAS NOT REVIEWED THE REMAINER OF THE REPORT

II. Recommendations to Increase the Number of Physicians Available to Provide Emergency Department On-Call and Trauma Center Services

A. *Enhance Reimbursement for Physicians Providing Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through appropriate and targeted reimbursement. Discussion items include:

- Provide tax incentives or tax credits to licensed Arizona physicians related to the provision of on-call services. For example, such physicians could receive tax credits related to otherwise uncompensated care they provide, or related to their malpractice premiums.

- Provide supplemental AHCCCS reimbursement to licensed Arizona physicians related to the provision of on-call services to AHCCCS beneficiaries. For example, create a special code or

modifier that will designate that on-call physician services are provided, which increases payment for the service rendered by a pre-determined percentage or amount. This reimbursement mechanism may be adopted by other payors.

- Use federal and state funds to create an "indigent care fund" available to hospitals and physicians to offset the cost of uncompensated care provided to emergency and trauma patients.

B. *Redesign Relationship between Managed Care Plans and On-Call Physicians*

- Require managed care plans to streamline their credentialing processes for *locum tenens* physicians who provide on-call services to managed care plan beneficiaries.

- Require managed care plans to reimburse non-contracted physicians for the provision of on-call services to managed care plan beneficiaries.

- Require managed care plans to allow non-contracted on-call physicians to provide follow-up care to patients initially seen in the emergency department or trauma center and reimburse non-contracted physicians for such follow-up care.

- Require managed care plans to assure the availability of sufficient numbers of on-call physicians at network hospitals to provide emergency and follow-up care services to insured patients. Under this approach, insured patients would never or rarely be treated as "unassigned patients" for on-call purposes.

[If Managed Care Plans fail to provide to their MEMBERS adequate Ed coverage of Specialist, they must re-imburse the Specialist Physician at an acceptable rate that is not below the CMS rate .

. *Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through an improved medical liability environment. The exposure to medical malpractice claims and the cost of liability insurance coverage that comes with it is cited by some physicians as a factor that makes providing emergency and trauma center services less attractive in Arizona. Understanding the substantial state constitutional barriers to comprehensive medical malpractice reform, EMSA Task Force members discussed the following as potential solutions to reform Arizona's medical liability environment.

- Increase the burden of proof to "clear and convincing evidence" in civil medical liability cases filed against physicians providing EMTALA-mandated care in emergency departments or in a disaster. This option limits medical liability reform to the emergency department and subsequent treatment of a hospital's emergency department patients. *[Review MICA data to determine whether there is a greater risk of medical liability in emergency care and whether or not rates are escalating in an unprecedented way.]* Supporters believe that this reform is necessary because emergency department patients present unique challenges that make physicians less willing to assume their care, yet preserves the right of emergency patients to receive compensation in the event of malpractice events. Other members of the Task Force question this approach.

- Provide state-funded medical liability coverage for any extra premium paid by physicians providing emergency department on-call or trauma center services.

- Increase the required qualifications for expert witnesses testifying in medical liability lawsuits.

- Petition the Arizona Supreme Court to authorize jury instructions educating juries regarding the unique environment in which on-call physicians practice in the emergency department. *[At least one EMSA Task Force member believes that this instruction falls on the physician's attorney and should not be part of jury instructions].*

- Address medical liability insurer disincentives to physicians providing on-call coverage. There is some evidence that some medical liability insurers charge discount medical liability insurance premiums for physicians who do not provide emergency department or on-call services.

- Clarify Arizona Medical Board and Arizona Osteopathic Board ethical guidelines with respect to whether on-call physicians are obligated to provide follow-up care to emergency department patients. Some physicians have stated a reluctance to provide on-call services for concern that they will have to accept emergency department patients into their private practice and continue to provide care to these patients indefinitely.

D. *Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services*

EMSA Task Force members believe the work environment for physicians providing services in emergency departments and trauma centers could be improved through routine use of electronic health records and telemedicine technology. Discussion items include:

- Implement standardized, comprehensive electronic medical records for use in emergency departments and trauma centers.

- Increase the use of telemedicine in emergency departments and trauma centers to help reduce the need for patient transfers.

E. *Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services*

Current law and practice requires each individual hospital to provide emergency department coverage for its own patients. EMSA Task Force members believe systemic changes could better ensure sufficient access to care in emergency departments and trauma centers. Discussion items include:

- To address the concern that some hospitals do not require physicians to provide on-call services, independently require physicians to provide on-call services at the Arizona Medical Board level (*e.g.*, it is unprofessional conduct for a physician not to provide on-call services unless specifically exempted by a hospital). *[Note: Some EMSA Task Force members believe that this is too strong and may have the opposite, unintended effect of reducing the number of physicians who practice in Arizona.]*

- Authorize the establishment of a combined physician specialist call rotation for all facilities within a geographic area, utilizing a "center for excellence" approach similar to the approach taken by trauma centers and the Arizona Perinatal Trust.

- Develop or authorize shared, community, or regional on-call arrangements in specialties with limited on-call physician availability.

- Limit physician ability to obtain selective or narrowed medical staff privileges if doing so limits their ability to provide frequently needed on-call services.

- Require physicians who provide services in ambulatory surgical centers or licensed outpatient treatment centers, or who provide high risk surgical procedures in private physician offices to maintain active medical staff membership and provide on-call services at a local hospital. This could reduce physician flight from hospitals due to on-call requirements, and ensure that patients transferred from those outpatient settings with emergency conditions will have attending physicians.

- Develop disincentives for hospitals to transfer patients when the transferring hospital has the capability to provide patient care services. *(One member writes: The "devil is in the details" here – I would be cautious about including this – how about "incentives for hospitals to keep patients instead of transferring them.")*

F. *Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community*

EMSA Task Force members believe the shortage of on-call physicians for emergency department and trauma services could be reduced through increased education for emergency department physicians. Discussion items include:

- Provide targeted specialty education for emergency department physicians to increase levels of expertise in common services needed in emergency departments (*e.g.,* behavioral health, orthopedic).

- Provide targeted education for rural physicians to increase levels of expertise in designated specialties to reduce the number of patient transfers from rural hospitals.

III. Other Recommendations That Would Benefit the Provision of Emergency and Trauma Services, But Are Outside the Scope of This Task Force

EMSA Task Force members presented a number of other recommendations designed to improve the provision of emergency and trauma services, but these recommendations were outside of the scope of the task force, as defined in the Executive Order. Some of these recommendations are currently under consideration by other state agency work groups, as noted below.

- Improve hospital infrastructure and resources to improve the flow of patients in the emergency department (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Ensure that emergency departments are used only for higher-acuity patients, not primary care or non-emergent patients (this recommendation is appropriate for referral to the ADHS Steering Committee on Hospital Diversion). To do so, access to primary and non-emergency care services must be improved so that community-based outpatient care resources are readily available, on a more timely basis.

- Provide community education regarding the proper use of hospital emergency departments (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Improve behavioral health patient resources within the state so that behavioral health patients do not have to be treated or held in the emergency department for extended periods of time waiting for appropriate transfer, referral, or state-mandated evaluations. Behavioral health patients place undue strains on Arizona's emergency departments, which is compounded by the lack of available behavioral health inpatient beds and outpatient resources.

- Support efforts to list student nurse practitioners under the same category as medical students in the federal graduate medical education program criteria.

- Monitor emergency department resources by requiring hospitals to report to ADHS certain metrics (*e.g.*, monthly volume, throughput time, patients who leave without treatment, patient boarding hours, ambulance diversion hours, on-call services) and compare state data to available national data (*e.g.*, ED Benchmarking Alliance). This data could be used to improve Arizona's health care delivery system performance (this recommendation is appropriate for review by ADHS' Steering Committee on Hospital Diversion).

- Improve physician supply chain for rural and medically underserved areas through the establishment of new physician offices, clinics, and graduate medical education training in these communities.

- Require and enforce adequate physician specialty and sub-specialty coverage by health plans on outpatient basis, as opposed to relying on hospital emergency departments to supply this care.

Timeline and Indicators of Success

EMSA Task Force members believe that time is of the essence and that the state should take prompt action to increase Arizona's physician supply and address the inadequate number of physicians available to provide on-call services to emergency departments and trauma centers. Accordingly, EMSA recommends that the state implement the recommendations outlined above within the following timeline:

[to come]

In addition, EMSA Task Force members believe that it is necessary to review the effect that these recommendations have on physician availability. Accordingly, EMSA recommends that the state implement the measures of success and evaluate these measures as follows:

[to come; consider recommendation to continue to fund the Center for Health Information and Research, contingent upon the inclusion of specified data elements designed to monitor the success of the Task Force's recommendations]

Conclusion

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A fishbone diagram developed by Arthur Pelberg, MD displaying possible reasons why people may use the Emergency Department excessively.

A fishbone diagram developed by Arthur Pelberg, MD displaying possible reasons why emergency Department physicians may be frustrated with their job and leaving the State.

A fishbone diagram developed by Arthur Pelberg, MD displaying possible system problems that may cause a shortage of Emergency Department physicians.

James Carland MD, President and CEO of MICA letter of explanation of what a mutual company is and a history of MICA's evolution in Arizona, submitted by Bruce Bethancourt, MD

"Emergency Department Visits"; the 5th in a series of Community Reports published by the Center for Health Information & Research CHIR). CHIR Emergency Department Visits Project Team members are Mary E. Rimsza, MD, FAAP, Co-Director, CHIR; Amy Bartels, MPH, Senior Research Analyst; Wade Bannister, MS, Data Analytics Manager; Michelle Segal, MA, Management Research Analyst; Kathleen Russell, BS, Program Manager; Anika Chartrand, Graphic Designer.

Medical Liability Update; Dr. James Carland; Medical Insurance Carriers of Arizona; President and CEO; Presentation Materials relevant to the task force understanding the impact of medical professional liability on physician services.

November 15TH, 2006 MEETING REFERENCES

EMSA TASK FORCE
DRAFT REPORT
From Dr. Bethancourt Version 3
FOR DISCUSSION ONLY

EXECUTIVE SUMMARY

On April 26, 2006, Governor Janet Napolitano signed Executive Order 2006-09, forming the Emergency Medical Services Access Task Force ("EMSA Task Force"). The Executive Order recognized that Arizona faces increasing strain on its medical emergency and trauma systems, due in part to the combination of explosive population growth and national and state physician shortages. The Governor charged the EMSA Task Force with assessing the status of the physician supply, including physicians available to hospital emergency departments and trauma services, and developing recommendations to improve the number of physicians who are providing emergency and trauma care in our state.

The Task Force found the following to be major contributing factors to the shortage of physicians serving Arizona's emergency departments and trauma centers:

- ***Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics***
- ***Limited Physician Supply***
- ***Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers***

To address the shortage of physicians in the state and the inadequate number of physicians available to provide on-call services to hospital emergency departments and trauma centers, the Task Force recommends the following solutions:

- ***Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona***
- ***EEnhance Reimbursement for Physicians Serving in Emergency Departments and Trauma Centers***
- ***Redesign Relationship between Managed Care Plans and On-Call Physicians***
- ***Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services***

- ***Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services***
- ***Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services***
- ***Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community***

In addition to these recommendations specifically designed to improve access to physicians and on-call physician services, the Task Force made several recommendations that are outside the scope of the Task Force. The Task Force raises these recommendations for review and further discussion by the appropriate regulatory bodies. Finally, the EMSA Task Force recommends timelines and various measures of success designed to monitor the effect of its recommendations on Arizona's physician supply.

Applying their own experience and expertise, as well as information gathered by the members from various community resources, the EMSA Task Force recommends specific strategies to implement each of its recommendations. Ultimately, no one strategy or goal will reverse the shortage of physician resources in hospital emergency departments and trauma centers. Stakeholders, including the public, will need to work collaboratively over time to make improvements and assure public access to quality emergency and trauma services throughout Arizona.

INTRODUCTION

Arizona's unprecedented current and projected population growth has outstripped the state's ability to attract and train sufficient physicians to practice in the state, particularly in rural and medically underserved areas. Without significant efforts, Arizona's critical service shortfalls will only worsen.

Likewise, Arizona hospitals are experiencing unprecedented demands for emergency and trauma services, exacerbated by a shortage of hospital beds and staff. A particularly acute dimension of this issue is the lack of physicians available and willing to serve emergency department and trauma patients. Most Arizona hospitals do not employ the majority of physicians serving on their medical staffs. Hospitals therefore must rely on an adequate number of physicians choosing to become medical staff members and on medical staff bylaws and hospital directives that force medical staff members to serve periodically "on call" in the emergency department. A complex web of federal laws and regulations, reimbursement, liability and credentialing issues, and such matters as funding for graduate medical education, all influence physician availability and willingness. Because of the complexity of these influences, hospitals cannot solve the physician shortage alone. However, solutions may come from meaningful discussion among key stakeholders, including the public.

It is commonly accepted that Arizona hospitals already suffer from inadequate emergency room and inpatient capacity and an overall physician shortage. Because demand for access to emergency and trauma services will increase proportionately as Arizona's population grows and ages, a comprehensive assessment and development of strategies is needed now. In order to accomplish this goal, in establishing the EMSA Task Force, Governor Napolitano brings together experienced stakeholders to address likely causes and make recommendations for meaningful improvements.

The EMSA Task Force is not alone in this effort. The Arizona Department of Health Services has formed several working groups to address related hospital overcrowding issues, including hospital throughput, diversion strategies, hospital surge capacity, education and best practices in emergency department management.

EMERGENCY MEDICAL SERVICES ACCESS TASK FORCE

Governor Napolitano issued Executive Order 2006-09 on May 25th 2006 to establish the Emergency Medical Service Access Task Force. The Executive Order specifically charges the EMSA Task Force with assessing the status of Arizona's Emergency Department and Trauma Center physician supply, identifying factors that may have lead to the current shortage, and making recommendations, including time frames, for actions the State may take to address the situation. The Governor has requested a full report of these findings and recommendations by January 1, 2007.

The members of the Task Force are experienced individuals interested in improving the quality of emergency care in Arizona.

[insert updated member list]

TASK FORCE FINDINGS *[ALL FINDINGS CONTINUE TO BE DISCUSSION ITEMS ONLY – AT THE NEXT MEETING, THE TASK FORCE WILL DECIDE WHICH WILL BE INCLUDED IN THE FINAL REPORT.]*

The EMSA Task Force identified a set of core factors which they have concluded are likely to have influenced the current shortage of physicians providing medical emergency and trauma services.

I. Unprecedented Demand for Health Care Services as the Result of Arizona's Population Growth and Demographics

Arizona is one of the fastest growing states in the nation. Arizona's population has grown from 3.7 million in 1993 to a population of 5.9 million in 2005. The state's exceptional growth, over a short period of time, has produced

many challenges, but one of the most serious involves the state's health care delivery system. Population growth continues to outpace healthcare facility construction, workforce training, and physician supply.

Looking to the future, Arizona's elderly, the population with the greatest overall acute health care needs, will triple in size and represent 26% of the state's population by 2050. Based on current and projected population increases, Arizona will need at least 10 additional hospitals, in addition to those already contemplated, over the next 10 years. *[Dr. Bethancourt or Dr. Pelberg to confirm with data; otherwise delete sentence]*

With increased population inevitably comes an increased volume of patients in emergency departments and trauma centers. The result is a greater need for physicians to serve those patients, both in the emergency departments themselves and during the inpatient hospital stays that follow for some patients. One component of increased patient volume believed to have an especially significant impact on emergency department crowding is the volume of patients needing urgent psychiatric care services.

For most hospitals, the sheer number of patients makes it difficult and sometimes impossible to provide care for emergency department patients in a timely manner. Compounding this problem is the fact that hospitals and physicians have little history and clinical information on emergency department patients, who frequently present with complex medical issues. Finally, uncompensated care for busy physician specialists serving the emergency department periodically through an on-call schedule is a significant concern.

II. Limited Physician Supply

[Chris Skelly to work with Dr. Rimsza to update the data in this section; revise to reflect not only the 2006 report data, but fact that physician numbers are increasing, just not at a high enough rate to meet demand for health care services.] In 2004, there were 12,024 active physicians practicing in Arizona resulting in a physician to population ratio of 207 to 100,000.1[1] The national average in 2004 was 283 to 100,000. This shortage of physicians has adversely affected Arizona residents' access to health care services and resulted in a shortage of on-call services available to provide services for the state's emergency departments and trauma centers. For the state to attain the 2004 national average, even if every physician practicing in 2004 remained in practice until 2020, the State would need to nearly double the number of physicians in the State. This would require adding at least 435 physicians per year between 2005 and 2010, and increasing to 668 per year between 2015 and 2020.

1[1] *The Arizona Physician Workforce Study – Part I: The Number of Practicing Physicians 1992-2004.* W. Johnson, M. Rimsza, T Garcy, M. Grossman, 2005.

All or part of every county in Arizona has been designated as a Health Profession Shortage Area (HPSA). Thirty-nine Medically Underserved Areas (MUAs) and eleven Medically Underserved Populations (MUPs) have also been designated. In total, there are fifty medically distressed areas in the State. Four counties have been designated as whole county MUAs and two counties as whole county MUPs. Although each county has improved the ratio of physicians to residents between 1992 and 2004, no county in the state has met the 2004 national average of 283 physicians to 100,000 people.

The EMSA Task Force attributes Arizona's physician shortage to a number of factors. One factor is the limited number of graduate medical education programs and resident training positions in the state. Arizona has only 20 residency positions for every 100,000 people, compared to 25 or more resident training positions for other western states. To reach even this basic level, Arizona must add 300 new residency positions. Since studies show that a majority of physicians who attend residency programs in Arizona later practice medicine in the state, it is important to attract new physicians with increased and enhanced graduate medical education training opportunities.2[2] Indeed, Arizona's resident retention rates are the second best in the country.3[3]

Arizona's medical liability environment is also an important factor. The Arizona Medical Association and numerous specialty societies consider Arizona at risk for a medical liability crisis. This fact may make Arizona less attractive to physicians than other states. *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].*

There is some evidence that low physician reimbursement for health care services is a cause of Arizona's physician shortage. Despite the record increase in health insurance premiums for employers of 14.5% each year since 2000

News Release

September 26, 2006

For further information contact:
Craig Palosky, (202) 347-5270 or cpalosky@kff.org
Larry Levitt, (650) 854-9500 or llevitt@kff.org

HEALTH INSURANCE PREMIUM GROWTH MODERATES SLIGHTLY IN 2006, BUT STILL INCREASES TWICE AS FAST AS WAGES AND INFLATION

2[2] [JAMA Article: Anne Winter to provide citation]
3[3] Id.

Enrollment in Consumer-Directed Health Plans Remains Modest At 2.7 Million; Relatively Few Employers Expect To Adopt Such Plans Next Year

Washington, D.C. – Premiums for employer-sponsored health coverage rose an average 7.7 percent in 2006, less than the 9.2 percent increase recorded in 2005 and the recent peak of 13.9 percent in 2003, according to the 2006 Employer Health Benefits Survey released today by the Kaiser Family Foundation and the Health Research and Educational Trust (HRET). Key findings from the survey were also published today as a *Health Affairs* Web Exclusive.

This year's survey recorded the slowest rate of premium growth since 2000, though premiums still increased more than twice as fast as workers' wages (3.8 percent) and overall inflation (3.5 percent). Premiums have increased 87 percent over the past six years. Family health coverage now costs an average $11,480 annually, with workers paying an average of $2,973 toward those premiums, about $1,354 more than in 2000.(Should correct to 14.5% Premium increase/yr. for the past 6 yrs.)

Arizona's managed care plan fee schedules have not kept pace with physician practice expense within the past five years, resulting in an overall decrease in physician reimbursement. For example, Arizona's primary care physicians' adjusted income decreased by 10.2% between 1995 and 2003. [need citation].

Losing Ground: Physician Income, 1995-2003

Tracking Report No. 15
June 2006
Ha T. Tu, Paul B. Ginsburg

(see article provided)

Finally, barriers to licensing and managed care credentialing appear to be additional important factors in Arizona's physician shortage.

III. Reluctance of Physicians to Provide On-Call Services in Emergency Departments and Trauma Centers

The EMSA Task Force noted an increasing complaint among hospitals about the decreasing numbers of physicians available and willing to serve on-call in emergency departments and trauma centers. Task Force members identified several factors that may deter physicians from serving in an emergency department or trauma center. One is the overall shortage of available physicians, both primary and specialty, which means fewer physicians available to provide health care services within the state, including physicians available to provide on-call services to Arizona's emergency departments and trauma centers.

Beyond that, physicians often find emergency service unattractive because it involves disruption to both personal life and private practice.4[4] The

4[4] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006); Arizona Medical Association, ED Specialist 2006 Survey.

federal EMTALA law and regulations currently require hospitals (and their on-call physicians) to accept emergency transfers from hospitals and communities across the state and beyond, which increases the burden on on-call physicians who are now on-call not only for their own community, but the entire state or country.5[5] Once they have evaluated and treated patients in the emergency setting, physicians may be required to continue to see these patients for a period of time until their condition is stabilized or resolved, frequently without reimbursement. In some instances, such follow-up care is made more difficult by the patient's insurance plan or failure to follow discharge instructions.

As a complicating factor, an increased patient population and use of hospital emergency departments by patients seeking primary care or non-emergent services has placed an unprecedented burden on hospital emergency departments and trauma centers.6[6] Many hospitals report that their inpatient units and emergency departments are routinely overcapacity. This increased patient volume further increases the demands on the state's on-call physicians, particularly as the demands of their own practices are also increasing.

Many physicians also contend that emergency department and trauma patients result in increased EMTALA and medical liability to the physician, which the physician is not willing to assume. In a recent informal survey conducted by the Arizona Medical Association, 23% of physicians who do not currently take emergency department calls stated that the primary reason was increased medical liability exposure.7[7] *[Some EMSA Task Force Members disagree with this provision; depending on final recommendations, this reference may be deleted from the report, revised, or moved to another section of the report].*

How can a non-physician that is not required to take ED call and not exposed to increased medical liability block this fact from our report.

This was not an "informal survey", this survey was sent to 200 Speciality Physicians (with a satistically significant response of 33%) that are members of the Arizona Medical Association. Their response is what it is…

The "some" is actually "one" task Force Member….

I will not agree to any change without full agreement with the majority of task force members.

To cope with these concerns, some physicians are increasingly obtaining selective or narrow medical staff privileges in hospitals, or dropping medical staff privileges altogether. Such a choice reduces the physician's abilities to serve patients in the emergency department.8[8] Moreover, some specialists have the ability to perform their more lucrative procedures outside of the hospital setting in

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5[5] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).

6[6] [citation to Dr. Pelberg's charts]

7[7] Arizona Medical Association ED Specialist 2006 Survey.

8[8] See e.g., American College of Surgeons, *"A Growing Crisis in Patient Access to Emergency Care"* (June 2006).

facilities such as specialty surgical hospitals or other ambulatory care settings, reducing the need for medical staff membership altogether.9[9] In an effort to maintain on-call services, as required by federal law, many hospitals now compensate physicians for their on-call services. Irrespective of this effort, hospitals are finding it increasingly difficult to provide on-call physician services in a variety of core services, including, for example, orthopedics and neurosurgery. For fear of losing these specialists from hospital medical staffs altogether, some hospitals are forced to offer physicians less demanding on-call coverage schedules, further reducing patient access to critical on-call physician services.

EMSA TASK FORCE RECOMMENDATIONS *[ALL RECOMMENDATIONS CONTINUE TO BE DISCUSSION ITEMS ONLY – OVER THE NEXT TWO MEETINGS, THE TASK FORCE WILL DECIDE WHICH WILL BE INCLUDED IN THE FINAL REPORT AND UNDER WHAT CATEGORY.]*

EMSA Task Force members provided a variety of recommendations to address the shortage of physicians in Arizona, particularly physicians available to provide on-call services in hospital emergency departments and trauma centers. These recommendations are set forth below.

I. Recommendations to Increase the Overall Supply of Physicians (Primary and Specialty) in Arizona

The shortage of on-call physicians for emergency department and trauma services is directly tied to the overall shortage of physicians. Task Force members believe that increasing the number of physicians in the state could increase the pool available for emergency department and trauma services. The Task Force recommends that the following recommendations be implemented, in addition to the recommendations set forth elsewhere in this report.

A. *Increase Funding for Graduate Medical Education*

- Increase the number of graduate medical education programs and resident slots, so that a larger number of residents will complete their training in Arizona. Studies show that physicians who train in a state are more likely to continue their practice in that state. *[Tony Rodgers to work to provide more detail in this section, discussing past legislation and future needs. Need at least 300 new resident positions, at an estimated total cost of $100,000 per resident.]*

- Provide graduate medical education funding to provide "refresher" courses and training programs for physicians who wish to reenter the workforce after a period of years (*e.g.*, semi-retired physicians,

9[9] See e.g., Mitchell, J.M., *"Effects of Physician-Owned Limited Service Spine and Orthopedic Hospitals in Oklahoma,"* Georgetown University Public Policy Institute (April 26, 2005).

physicians who have taken a leave of absence, or physicians who would like to reenter the workforce after a period of years).

B. *Attract and Retain Physicians from Out-of-State*

- Provide "one-stop shopping" service for licensure and credentialing for physicians who wish to practice in Arizona. This may be accomplished through a physician recruitment office or agency, either state or privately funded, that works with the state's two physician licensing boards, managed care plans, and hospitals to provide assistance with the physician licensure, credentialing, and hospital privileging process. The office or agency would review and approve physicians for licensure and credentialing in a manner that is compliant with state licensure requirements, NCQA, JCAHO, and other accreditation standards for physician licensure and credentialing, which would then be accepted by the state's licensing boards and managed care plans.

- Adopt and require the use of a single application for licensure and managed care credentialing, so that physicians do not have to complete multiple applications, similar to those implemented in other states.

- Provide assistance for physicians relocating to Arizona (*e.g.,* real estate agent referrals, physician market information, business assistance and favorable loan terms to physicians who wish to practice in Arizona).

- Establish a state physician loan payment program for physicians willing to practice in the state for at least two years and provide on-call services in the state, assuming that the physician practices in a community where a hospital is located. This program may be tailored to apply to certain types of physicians that are in demand as determined by relevant data (*e.g.*, rural primary care physicians, designated specialists).

- Market Arizona as an attractive place for physicians to practice.

- Provide additional education and assistance to physicians who have just completed their residency programs to assist them in practical obstacles such as joining or opening a medical practice and obtaining managed care contracts.

C. *Reduce Obstacles to Medical Practice in Arizona*

- Provide funding to Arizona's two state physician licensing boards to expedite and streamline the physician licensure process in the event that a single licensure/credentialing process cannot be implemented as described above.

- Assist managed care companies in reducing their initial credentialing timeline by working with NCQA, JCAHO, or other national accrediting agencies to simplify their credentialing procedures, in the event that a single licensure/credentialing process cannot be implemented as described above.

- Require managed care plans to promptly provide retroactive reimbursement for services physicians render to plan subscribers before the physician credentialing process is completed.

D. *Better Utilize Retired and Part-Time Physician Workforce*

- Provide incentives for retired and part-time physicians to continue to provide physician services within the state, consistent with those recommended for all physicians, as described elsewhere in this report.

E. Implement Strategies to Improve Access to Primary Care Providers to Reduce the Need for Physician Services in the State

- *Increase of Use of Nurse Practitioners*

EMSA Task Force members believe that physician workloads could be reduced if there is more effective utilization of nurse practitioners. Nurse practitioners are highly-qualified independent practitioners that can positively impact access to primary care services. In addition, recognition of nurse practitioners as independent practitioners in the field will help reduce the need for emergency department services.

- Require AHCCCS managed care plans and other private health insurance plans that do business in Arizona to credential and utilize independent nurse practitioners, consistent with the AHCCCS and Medicare reimbursement methodology for these practitioners. Registered nurse practitioners have autonomous practice authority under Arizona law, but if they cannot be reimbursed for their services, they cannot establish financially viable office and clinics to provide primary care services to Arizona residents.

- Require managed care plans to credential, empanel, and reimburse nurse practitioners directly for services.

- Promote efficient use of nurse practitioner services in emergency departments.

- Implement measures similar to physician incentives set forth in this report to increase number of nurse practitioners in the state (*e.g.*, increased education funding, decreased obstacles to practice in the state).

- *Increase of Availability of Other Health Care Providers*

    - EMSA Task Force members believe that physician workloads could be reduced if the shortage of other types of health care providers within the state were adequately addressed. The Task Force recommends that the state continue its efforts to increase the nurse workforce and implement measures to attract other types of health care professionals, including physician assistants, therapists, technicians, and other providers to the state.

II. Recommendations to Increase the Number of Physicians Available to Provide Emergency Department On-Call and Trauma Center Services

A. *Enhance Reimbursement for Physicians Providing Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through appropriate and targeted reimbursement. Discussion items include:

- Provide tax incentives or tax credits to licensed Arizona physicians related to the provision of on-call services. For example, such physicians could receive tax credits related to otherwise uncompensated care they provide, or related to their malpractice premiums.

- Provide supplemental AHCCCS reimbursement to licensed Arizona physicians related to the provision of on-call services to AHCCCS beneficiaries. For example, create a special code or modifier that will designate that on-call physician services are provided, which increases payment for the service rendered by a pre-determined percentage or amount. This reimbursement mechanism may be adopted by other payors.

- Use federal and state funds to create an "indigent care fund" available to hospitals and physicians to offset the cost of uncompensated care provided to emergency and trauma patients.

B. *Redesign Relationship between Managed Care Plans and On-Call Physicians*

- Require managed care plans to streamline their credentialing processes for *locum tenens* physicians who provide on-call services to managed care plan beneficiaries.

- Require managed care plans to reimburse non-contracted physicians for the provision of on-call services to managed care plan beneficiaries.

- Require managed care plans to allow non-contracted on-call physicians to provide follow-up care to patients initially seen in the emergency department or trauma center and reimburse non-contracted physicians for such follow-up care.

- Require managed care plans to assure the availability of sufficient numbers of on-call physicians at network hospitals to provide emergency and follow-up care services to insured patients. Under this approach, insured patients would never or rarely be treated as "unassigned patients" for on-call purposes.

C. *Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services*

EMSA Task Force members believe the shortage of on-call physicians available and willing to provide for emergency department on-call and trauma services could be reduced through an improved medical liability environment. The exposure to medical malpractice claims and the cost of liability insurance coverage that comes with it is cited by some physicians as a factor that makes providing emergency and trauma center services less attractive in Arizona. Understanding the substantial state constitutional barriers to comprehensive medical malpractice reform, EMSA Task Force members discussed the following as potential solutions to reform Arizona's medical liability environment.

- Increase the burden of proof to "clear and convincing evidence" in civil medical liability cases filed against physicians providing EMTALA-mandated care in emergency departments or in a disaster. This option limits medical liability reform to the emergency department and subsequent treatment of a hospital's emergency department patients. *[Review MICA data to determine whether there is a greater risk of medical liability in emergency care and whether or not rates are*

escalating in an unprecedented way.] Supporters believe that this reform is necessary because emergency department patients present unique challenges that make physicians less willing to assume their care, yet preserves the right of emergency patients to receive compensation in the event of malpractice events. Other members of the Task Force question this approach.

- Provide state-funded medical liability coverage for any extra premium paid by physicians providing emergency department on-call or trauma center services.

- Increase the required qualifications for expert witnesses testifying in medical liability lawsuits.

- Petition the Arizona Supreme Court to authorize jury instructions educating juries regarding the unique environment in which on-call physicians practice in the emergency department. *[At least one EMSA Task Force member believes that this instruction falls on the physician's attorney and should not be part of jury instructions].*

- Address medical liability insurer disincentives to physicians providing on-call coverage. There is some evidence that some medical liability insurers charge discount medical liability insurance premiums for physicians who do not provide emergency department or on-call services.

- Clarify Arizona Medical Board and Arizona Osteopathic Board ethical guidelines with respect to whether on-call physicians are obligated to provide follow-up care to emergency department patients. Some physicians have stated a reluctance to provide on-call services for concern that they will have to accept emergency department patients into their private practice and continue to provide care to these patients indefinitely.

D. *Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services*

EMSA Task Force members believe the work environment for physicians providing services in emergency departments and trauma centers could be improved through routine use of electronic health records and telemedicine technology. Discussion items include:

- Implement standardized, comprehensive electronic medical records for use in emergency departments and trauma centers.

- Increase the use of telemedicine in emergency departments and trauma centers to help reduce the need for patient transfers.

E. *Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services*

Current law and practice requires each individual hospital to provide emergency department coverage for its own patients. EMSA Task Force members believe systemic changes could better ensure sufficient access to care in emergency departments and trauma centers. Discussion items include:

- To address the concern that some hospitals do not require physicians to provide on-call services, independently require physicians to provide on-call services at the Arizona Medical Board level (*e.g.*, it is unprofessional conduct for a physician not to provide on-call services unless specifically exempted by a hospital). *[Note: Some EMSA Task Force members believe that this is too strong and may have the opposite, unintended effect of reducing the number of physicians who practice in Arizona.]*

- Authorize the establishment of a combined physician specialist call rotation for all facilities within a geographic area, utilizing a "center for excellence" approach similar to the approach taken by trauma centers and the Arizona Perinatal Trust.

- Develop or authorize shared, community, or regional on-call arrangements in specialties with limited on-call physician availability.

- Limit physician ability to obtain selective or narrowed medical staff privileges if doing so limits their ability to provide frequently needed on-call services.

- Require physicians who provide services in ambulatory surgical centers or licensed outpatient treatment centers, or who provide high risk surgical procedures in private physician offices to maintain active medical staff membership and provide on-call services at a local hospital. This could reduce physician flight from hospitals due to on-call requirements, and ensure that patients transferred from those outpatient settings with emergency conditions will have attending physicians.

- Develop disincentives for hospitals to transfer patients when the transferring hospital has the capability to provide patient care services.

F. *Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community*

EMSA Task Force members believe the shortage of on-call physicians for emergency department and trauma services could be reduced through increased education for emergency department physicians. Discussion items include:

- Provide targeted specialty education for emergency department physicians to increase levels of expertise in common services needed in emergency departments (*e.g.,* behavioral health, orthopedic).

- Provide targeted education for rural physicians to increase levels of expertise in designated specialties to reduce the number of patient transfers from rural hospitals.

III. Other Recommendations That Would Benefit the Provision of Emergency and Trauma Services, But Are Outside the Scope of This Task Force

EMSA Task Force members presented a number of other recommendations designed to improve the provision of emergency and trauma services, but these recommendations were outside of the scope of the task force, as defined in the Executive Order. Some of these recommendations are currently under consideration by other state agency work groups, as noted below.

- Improve hospital infrastructure and resources to improve the flow of patients in the emergency department (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Ensure that emergency departments are used only for higher-acuity patients, not primary care or non-emergent patients (this recommendation is appropriate for referral to the ADHS Steering Committee on Hospital Diversion). To do so, access to primary and non-emergency care services must be improved so that community-based outpatient care resources are readily available, on a more timely basis.

- Provide community education regarding the proper use of hospital emergency departments (this recommendation is currently under review by the ADHS Steering Committee on Hospital Diversion).

- Improve behavioral health patient resources within the state so that behavioral health patients do not have to be treated or held in the emergency department for extended periods of time waiting for

appropriate transfer, referral, or state-mandated evaluations. Behavioral health patients place undue strains on Arizona's emergency departments, which is compounded by the lack of available behavioral health inpatient beds and outpatient resources.

- Support efforts to list student nurse practitioners under the same category as medical students in the federal graduate medical education program criteria.

- Monitor emergency department resources by requiring hospitals to report to ADHS certain metrics (*e.g.*, monthly volume, throughput time, patients who leave without treatment, patient boarding hours, ambulance diversion hours, on-call services) and compare state data to available national data (*e.g.*, ED Benchmarking Alliance). This data could be used to improve Arizona's health care delivery system performance (this recommendation is appropriate for review by ADHS' Steering Committee on Hospital Diversion).

- Improve physician supply chain for rural and medically underserved areas through the establishment of new physician offices, clinics, and graduate medical education training in these communities.

- Require and enforce adequate physician specialty and sub-specialty coverage by health plans on outpatient basis, as opposed to relying on hospital emergency departments to supply this care.

IV. Timeline and Indicators of Success

EMSA Task Force members believe that time is of the essence and that the state should take prompt action to increase Arizona's physician supply and address the inadequate number of physicians available to provide on-call services to emergency departments and trauma centers. Accordingly, EMSA recommends that the state implement the recommendations outlined above within the following timeline:

[to come]

In addition, EMSA Task Force members believe that it is necessary to review the effect that these recommendations have on physician availability. Accordingly, EMSA recommends that the state implement the measures of success and evaluate these measures as follows:

[to come; consider recommendation to continue to fund the Center for Health Information and Research, contingent upon the inclusion of specified data elements designed to monitor the success of the Task Force's recommendations]

Draft TimeLine for Implementation

The following is only a sample of what the TimeLine might look like within the final report. Members should review and comment at the November 15th Meeting.

Implementation TimeLine	Recommendation
	Increase Funding for Graduate Medical Education
	Increase the number of graduate medical education programs and resident slots
	Provide graduate medical education funding to provide "refresher" courses and training programs for physicians who wish to reenter the workforce after a period of years
	Attract and Retain Physicians from Out-of-State
	Provide "one-stop shopping" service for licensure and credentialing for physicians who wish to practice in Arizona
	Adopt and require the use of a single application for licensure and managed care credentialing
	Provide assistance for physicians relocating to Arizona
	Establish a state physician loan payment program for physicians willing to practice in the state for at least two years and provide on-call services in the state, assuming that the physician practices in a community where a hospital is located
	Market Arizona as an attractive place for physicians to practice
	Provide additional education and assistance to physicians who have just completed their residency programs
	Reduce Obstacles to Medical Practice in Arizona
	Provide funding to Arizona's two state physician licensing boards to expedite and streamline the physician licensure process
	Assist managed care companies in reducing their initial credentialing timeline
	Require managed care plans to promptly provide retroactive reimbursement for services physicians render to plan subscribers before the physician credentialing process is completed
	Better Utilize Retired and Part-Time Physician Workforce
	Provide incentives for retired and part-time physicians to continue to provide physician services within the state
	Implement Strategies to Improve Access to Primary Care Providers
	Increase of Use of Nurse Practitioners
	Require AHCCCS managed care plans and other private health insurance plans that do business in Arizona to credential and utilize independent nurse practitioners
	Require managed care plans to credential, empanel, and reimburse nurse practitioners directly for services
	Promote efficient use of nurse practitioner services in emergency departments
	Implement measures similar to physician incentives set forth in this report to increase number of nurse practitioners in the state

	Enhance Reimbursement for Physicians Providing Emergency Department On-Call and Trauma Center Services
	Provide tax incentives or tax credits to licensed Arizona physicians related to the provision of on-call services
	Provide supplemental AHCCCS reimbursement to licensed Arizona physicians related to the provision of on-call services to AHCCCS beneficiaries
	Use federal and state funds to create an "indigent care fund" available to hospitals and physicians to offset the cost of uncompensated care
	Redesign Relationship between Managed Care Plans and On-Call Physicians
	Require managed care plans to streamline their credentialing processes for *locum tenens* physicians who provide on-call services to managed care plan beneficiaries
	Require managed care plans to reimburse non-contracted physicians for the provision of on-call services to managed care plan beneficiaries
	Require managed care plans to allow non-contracted on-call physicians to provide follow-up care to patients initially seen in the emergency department or trauma center and reimburse non-contracted physicians for such follow-up care
	Require managed care plans to assure the availability of sufficient numbers of on-call physicians at network hospitals to provide emergency and follow-up care services to insured patients
	Improve the Medical Liability Environment for Physicians Who Provide Emergency Department On-Call and Trauma Center Services
	Increase the burden of proof to "clear and convincing evidence" in civil medical liability cases filed against physicians
	Provide state-funded medical liability coverage for any extra premium paid by physicians providing emergency department on-call or trauma center services
	Increase the required qualifications for expert witnesses testifying in medical liability lawsuits
	Petition the Arizona Supreme Court to authorize jury instructions educating juries regarding the unique environment in which on-call physicians practice in the emergency department
	Address medical liability insurer disincentives to physicians providing on-call coverage
	Clarify Arizona Medical Board and Arizona Osteopathic Board ethical guidelines with respect to whether on-call physicians are obligated to provide follow-up care to emergency department patients
	Utilize Technology to Assist Physicians Providing Emergency On-Call and Trauma Center Services
	Implement standardized, comprehensive electronic medical records for use in emergency departments and trauma centers
	Increase the use of telemedicine in emergency departments and trauma centers to help reduce the need for patient transfers

	Redesign the Relationship among Communities, Hospitals and Physicians Providing Emergency On-Call and Trauma Center Services
	Address the concern that some hospitals do not require physicians to provide on-call services, independently require physicians to provide on-call services at the Arizona Medical Board level
	Authorize the establishment of a combined physician specialist call rotation for all facilities within a geographic area
	Develop or authorize shared, community, or regional on-call arrangements in specialties with limited on-call physician availability
	Limit physician ability to obtain selective or narrowed medical staff privileges if doing so limits their ability to provide frequently needed on-call services
	Require physicians who provide services in ambulatory surgical centers or licensed outpatient treatment centers, or who provide high risk surgical procedures in private physician offices to maintain active medical staff membership and provide on-call services at a local hospital
	Develop disincentives for hospitals to transfer patients when the transferring hospital has the capability to provide patient care services
	Provide Targeted Education for Physicians Providing Emergency On-Call and Trauma Center Services to the Community
	Provide targeted specialty education for emergency department physicians to increase levels of expertise in common services needed in emergency departments
	Provide targeted education for rural physicians to increase levels of expertise in designated specialties to reduce the number of patient transfers from rural hospitals

The Arizona Physician Workforce Study: Part II

1994-2005

Mary E. Rimsza, MD, FAAP, FSAM

William G. Johnson, PhD

Mark Speicher, MHA

Center for Health Information & Research

School of Computing and Informatics

Ira A. Fulton School of Engineering

Arizona State University

Michael Grossman, MD, MACP

Associate Dean for Graduate Medical Education

Executive Director, Arizona Medical Education Consortium (AzMEC)

and University of Arizona Health Sciences Center

Sponsored by: St. Luke's Health Initiatives, Flinn Foundation, & BHHS Legacy Foundation

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Acknowledgements

The authors gratefully acknowledge the cooperation of Mr. Tim Miller and Ms. Bernadette Phelan, PhD, the Director and the former Associate Executive Director, respectively, of the Arizona Medical Board and Mr. Jack Confer, the Executive Director of the Arizona Board of Osteopathic Examiners. Additionally, we express our thanks to Lori Kemper, DO, Associate Dean, Graduate Medical Education of Midwestern University, Arizona College of Osteopathic Medicine. This study could not have been accomplished without their assistance and the cooperation of their staffs. We would also like to thank the members of Arizona State University's (ASU) Center for Health Information & Research (CHIR): Wade Bannister, Data Analytics Manager; Amy Bartels, Senior Research Analyist; Miwa Edge, Senior Application Systems Analyst; Kathleen Russell, Program Manager; Anika Chartrand, Graphic Designer; and Tameka Jackson, Administrative Specialist for their contributions.

Introduction

This report is the second in a series of reports on the Arizona Physician Workforce. *The Arizona Physician Workforce Study Part I: The Numbers of Practicing Physicians*, our first report published in May 2005 (Johnson et al., 2005), described trends in the physician population in Arizona from 1992 through 2004, physician population ratios by county in 2004, summarized previous reports on the physician workforce, and discussed the relationship between attending medical school or residency in Arizona and developing a practice here, as well as the time lag in increasing the supply of physicians.

Key findings in our first report were:

- The Arizona physician-to-population ratio in 2004 was 207 physicians per 100,000 people, less than the national average.[1]
- There are large disparities in the urban/rural distribution of Arizona physicians with physician-to-population ratios ranging from a high of 276 physicians per 100,000 individuals in Pima County to a low of 48 physicians per 100,000 individuals in Apache County in 2004.
- Out-of-state medical schools provide 90% of Arizona's allopathic physician workforce in Arizona.

Our current report provides updated information on the supply of Arizona physicians in 2005, results of a 2005 graduating resident physician survey, and a 2005 survey of newly licensed physicians. The report also includes an analysis of the practicing Arizona physician workforce by specialty and discusses trends in physician productivity. Finally, we review current models used to determine physician supply and demand and apply the models to forecast the supply of physicians in Arizona over the next 15 years.

The key findings in our current report are:

- The number of practicing physicians (Medical Doctors [MDs] and Doctors of Osteopathy [DOs]) in Arizona increased from 12,024 in 2004 to 13,215 in 2005.
- Although the number of practicing physicians in Arizona increased 10% from 2004 to 2005, the physician per 100,000 population ratio only increased by approximately 6%—from 207 in 2004 to 219 in 2005—and remains well below the national average.
- The disparate urban/rural distribution of physicians in Arizona continued in 2005, with physician-to-population ratios ranging from a high of 292 in Pima County to a low of 50 in Apache County (Table 1).

1 Physician-to-population ratios are the most common measures of the physician supply, but differences in how physicians are counted (all physicians, licensed physicians, "active" (in clinical practice) physicians, and other methods) lead to rather large differences in ratios. Last year, we used an estimate by the Health Resources and Services Administration (HRSA) for FTE physicians in the year 2000, which was 283/100,000 for the entire United States (U.S.); the HRSA prediction for 2005 was 293/100,000. In contrast, the Government Accounting Office found 239 physicians/100,000 population nationally in 2001 and 207/100,000 in Arizona. The Kaiser Family Foundation found 281 non-federal physicians/100,000 nationally in 2004, while the American Association of Medical Colleges found the 2005 ratio to be about 246/100,000. Our report measures physicians holding an active Arizona license, with a practice address in Arizona, as outlined in the "Methodology" section of our report.

Table 1. Physician Supply in Arizona by County, 2005

County	Number of Physicians	2005 Population	Physicians per 100,000 Population
Apache	37	73,775	50
Cochise	147	131,790	112
Coconino	335	130,530	257
Gila	81	54,445	149
Graham	40	35,455	113
Greenlee	7	8,300	84
La Paz	21	21,190	99
Maricopa	8501	3,648,545	233
Mohave	268	188,035	143
Navajo	122	109,985	111
Pima	2798	957,635	292
Pinal	184	246,660	75
Santa Cruz	35	44,055	79
Yavapai	363	205,105	177
Yuma	242	189,480	128
Entire State	13,215	6,078,359	219

Source: Arizona Medical Board (AMB) and Arizona Osteopathic Board (AOB) data, 2005; Population data from U.S. Census Bureau data.

Note: The total number 13,215 includes 38 physicians whose address was listed as "Arizona" but no county or zip code was provided. It excludes four physicians whose address was not an in-state address but who gave a zip code that was mapped to an Arizona county. Additionally, because physicians working in federal facilities (e.g., Indian Health Service hospitals) are not required to have an Arizona license, the size of the physician workforce in counties with these facilities may be underreported.

This report is divided into five sections. Section I describes influences on the physician supply in Arizona, emphasizing specialty distribution, the impact of Arizona residency training programs on physician supply, and changes in the physician population. Section II reviews factors impacting physician productivity and describes changes in physician productivity over the past decade. Section III reviews existing models of the demand for health care providers. Section IV discusses existing models for the supply of and demands for health care providers, and predicts the demand for and supply of physicians in Arizona. Section V includes a brief summary and recommendations for further study.

Data Sources

The results in this report are based on licensing data from the Arizona Medical Board (AMB), the Arizona Board of Osteopathic Examiners in Medicine and Surgery (The Arizona Osteopathic Board, or AOB), and survey questions that are included in the initial license applications and license renewal applications submitted by physicians to the AMB and AOB. Licensure data on physician assistants (PAs) were provided by the Arizona Medical Board for the Arizona Regulatory Board of Physician Assistants. Licensure data on advanced practice nurses (APNs) were provided by the Arizona State Board of Nursing (AZBN). Additional data were also obtained from past studies that also were based on the AMB and AOB licensing data and surveys conducted from 1992 – 1997 with the support of the Flinn Foundation (Johnson et al., 1992, 1999, 2004; Thornton, Johnson, & Quiroz, 1998).

Three surveys are utilized for this report:

- the Practicing Physician Survey (PPS) surveying physicians renewing their Arizona licenses,
- the New Physician Survey (NPS) surveying physicians applying for an Arizona license for the first time, and
- the Graduating Resident Survey (GRS) surveying resident physicians graduating from Arizona residency training programs approved by Accreditation Council of Graduate Medical Education (ACGME).

The Practicing Physicians Survey includes questions that can be used to measure physician productivity (e.g., clinical work hours, patient panel) and practice patterns (e.g., time spent in non-clinical care). The New Physician Survey includes questions on motivations for practicing in Arizona. The Graduating Resident Survey provides information on the factors that influenced graduating residents' choice of practice location (Table 2).

Table 2. Data Sources

Data Source and Coverage / Measures of Interest
AMB and AOB Licensure Data —Statewide, 1990-91; 1992-97, 2002-05
1. Office locations of MDs, PAs and DOs
2. Medical specialties
3. Demographic data
AZBN (Arizona State Board of Nursing) Licensure Data – Statewide, 2005
1. Office locations of APNs
PPS—Statewide, 1992-97, 2003-05
1. Productivity measures
2. Characteristics of practice
3. Effects of managed care
4. Other practice changes over time
NPS—MDs only, Statewide, 2004-05
1. Reasons for application for licensure in AZ
2. Reasons for choosing to practice in AZ
GRS—MDs and DOs completing residency training in ACGME-approved Arizona programs, statewide, 1993-95, 2005
1. Intent to practice in AZ
2. Reasons for choosing first practice

The productivity of physicians is influenced by the extent to which they are assisted by non-physician clinicians (NPCs) such as advanced practice nurses and physicians assistants. This report includes data on the number and geographic distribution of NPCs utilizing licensure data. However, because surveys are not available for NPCs, we cannot assess their productivity or practice patterns. We hope to include ongoing survey information on NPCs as part of their licensing process in future reports in order to obtain a better picture of their role in provision of health care services.

Methodology

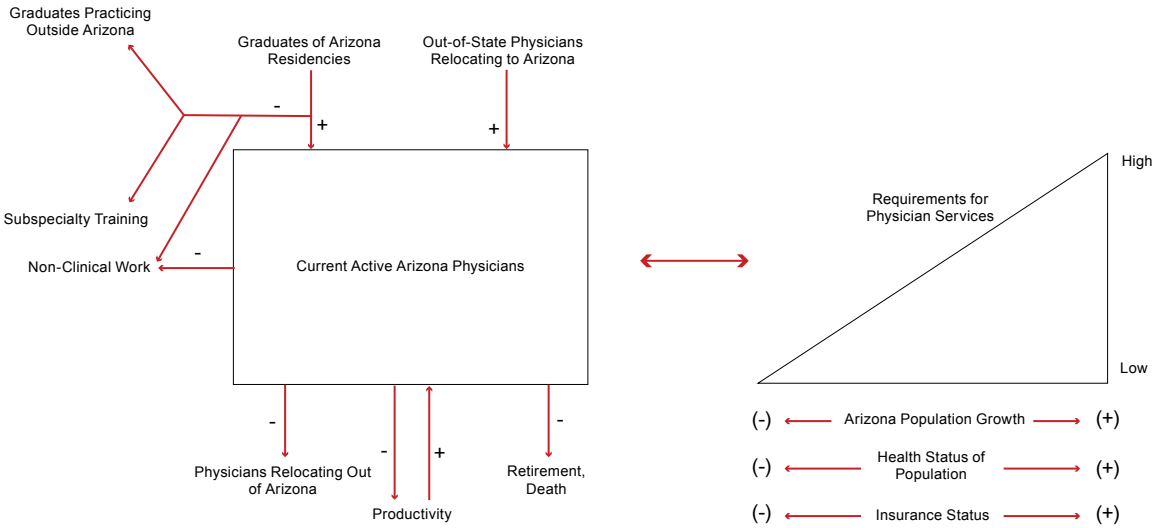
Concepts and Definitions

In this report, we define an Arizona physician as an MD or DO who has an active Arizona license and lists a practice address in the state of Arizona. For convenience, we use the term physician supply to refer to numbers of physicians. The number of physicians is not, however, synonymous with the supply of physician services — a more appropriate measure of supply. We define the supply of physician services as the product of the number of physicians, their hours of work, and some measure of productivity (such as the number of patients seen per hour of work). It will also be necessary to consider the type of health care services provided by physicians in defining the supply of physician services. The supply of physician services can be defined by specialty area (e.g., pediatrics, obstetrics), patient population served (e.g., children, adults, pregnant women), or nature of services (e.g., inpatient services, preventive health, acute medical care). The demand for the physician's services also varies and is influenced by the demographic characteristics and prevalence of disease in the community where the physician chooses to practice. For example, the demand for pediatricians can be expected to be lower in a community where the majority of residents are retirees than in a rapidly growing community with young families.

Additionally, if physician productivity is measured in terms of number of patients seen per hour of work, productivity can be expected to vary by physician specialty. For physicians in some specialties (e.g., oncology), the majority of their patients have complex diseases (e.g., cancers) which require more time per patient visit than is needed to provide care to healthier patients who may require only preventive care. Also, the type of services provided by the physician will affect the number of patients seen per day and the demand for physician services. For example, a surgeon who is performing minor surgery (e.g., vasectomy) in an ambulatory surgery center may be able to complete more procedures per day than a physician who is performng major surgery (e.g., coronary artery bypass) in a hospital operating room.

The current supply of active Arizona physicians is increased by both new physicians who graduate from Arizona residencies and choose to enter practice in Arizona and out of state physicians who relocate to Arizona either immediately after completing residency training or after practicing in other states (Figure 1). Conversely, the supply of active Arizona physicians is reduced by the retirement, death, or relocation of physicians who had been practicing in Arizona as well as the loss of physicians who leave clinical medicine for non-clinical pursuits such as research or administration. The factors contributing to the overall supply of physicians are discussed in Section II of the report. The demand for physician services changes with population growth as well as in response to changes in demographics, health status, and insurance coverage of the Arizona population. The manner in which we predict the demand for physician services is discussed in Section III of the report, and future trends in supply and demand are discussed in Section IV.

Figure 1. Factors Affecting the Supply and Demand for Physicians



Source: Adapted from Shipman, Lurie, & Goodman, 2004, p. 436.

Surveys

The New Physician Survey was distributed to 1,308 allopathic physicians[2] applying for a license in Arizona in 2005. A total of 808 surveys were returned for a response rate of 62%. The Graduating Resident Surveys were sent to Arizona residency program directors for distribution to the 366 residents graduating from ACGME-approved programs in Arizona in 2005; 144 Graduating Resident Surveys were returned for a response rate of 39%. Response rates for the surveys are discussed in greater detail in Appendix A.

The Practicing Physician Survey was distributed to all physicians with an "active" license who were required to renew their licenses during the years 2003 through 2005. Because the license renewal cycle is never longer than two years, every licensed physician in Arizona received at least one Practicing Physician Survey but some physicians may have received two surveys during the time period. If two surveys were completed by a physician between 2003 and 2005, the more recently completed survey was used for our results. The data from the Practicing Physician Surveys were matched to the demographic data on each respondent so that survey data could be analyzed by gender, age group, specialty, and practice location.

In discussing the future of the Arizona physician workforce, we begin with the present-day factors that determine the supply of physicians according to the model expressed in Figure 1. In determining the supply of physicians, we look first at the total changes in the number of physicians that was present in 2004.

2 No record was kept of the names of those to whom the survey was distributed. Since the respondents did not yet have Arizona licenses, they cannot be matched to our license number database. This number likely underestimates the true response rate of those who applied for an Arizona license and came to Arizona to practice.

Section I – Supply of Arizona Physicians

The supply of physicians in Arizona increased 10% from 12,045 in 2004 to 13,215 in 2005. Table 3 shows the changes in supply by specialty. The proportion of physicians in each specialty category remained relatively constant except the "other/unknown" specialties.[3] This finding differs from national studies reporting that a smaller percentage of graduating physicians are choosing to practice primary care (Brotherton et. al., 2001; Newton & Grayson, 2003) though this trend may have leveled off (Brotherton et. al., 2005). The number of allopathic physicians (MDs) increased from 10,787 to 11,616, almost 8%, while the number of osteopathic physicians (DOs) increased almost 30%, from 1,237 to 1,599. The proportion of total physicians who are DOs increased from 10% in 2004 to 12% in 2005. The number of MDs in urban counties increased by almost 8% from 9,307 in 2004 to 9,999 in 2005 (Figure 2); the number of MDs in rural counties increased by 10% from 1,473 to 1,617 (Figure 3). This year, for the first time, we have measured the increase in osteopathic physicians in rural and urban areas.[4] For DOs, there was a 29% increase in physicians in urban counties (from 1,006 to 1,299) and a 26% increase in physicians practicing in rural counties (from 238 to 300).

Table 3. Changes in Physician Supply by Specialty Groups, 2004 – 2005[5]

Specialty	*Number of Physicians, 2004 (Percent of Total Physicians)*	*Number of Physicians, 2005 (Percent of Total Physicians)*	*Percent Change, 2004 – 2005*
Total Physicians	12,024(100%)	13,215 (100%)	10%
Primary Care	5,498 (46%)	6,139 (46%)	12%
Surgical Specialties	1,881 (16%)	2,127 (16%)	13%
Hospital-Based Specialties	2,294 (19%)	2,498 (19%)	9%
Medical Specialties	1,429 (12%)	1,572 (12%)	10%
Pediatric Specialties	141 (1%)	154 (1%)	9%
Other/Unknown Specialties	781	725	-7%

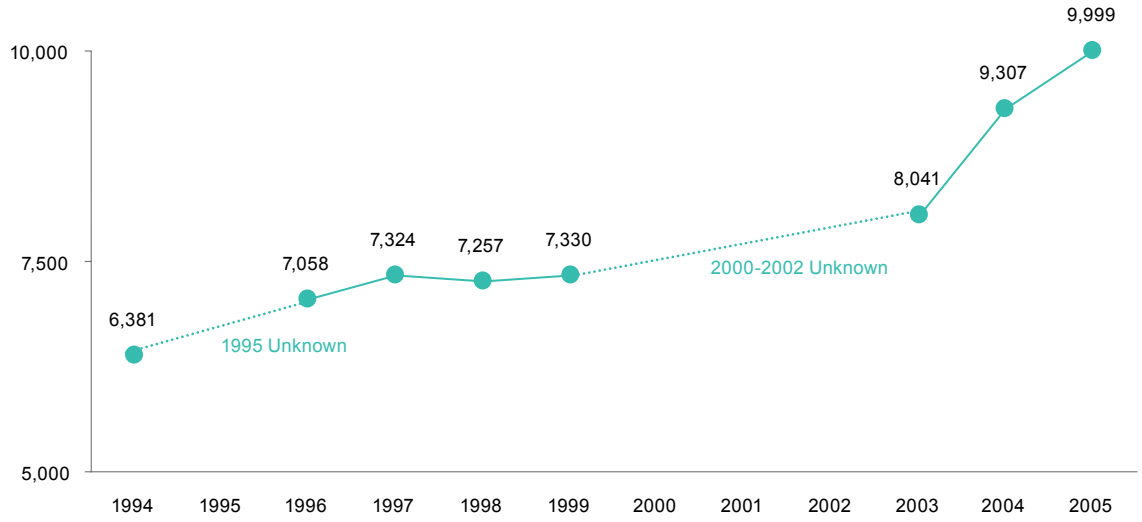
Source: AMB and AOB, 2004-2005.

3 The decrease in this category must be interpreted with caution. Because the category includes physicians who did not list a specialty, this decrease could have been caused by better response to the specialty question in 2004 than 2005.

4 The Arizona Board of Osteopathic Examiners in Medicine and Surgery did not participate in most previous studies or surveys of Arizona physicians, so licensure data is not available on osteopathic physicians for 1995 – 2003.

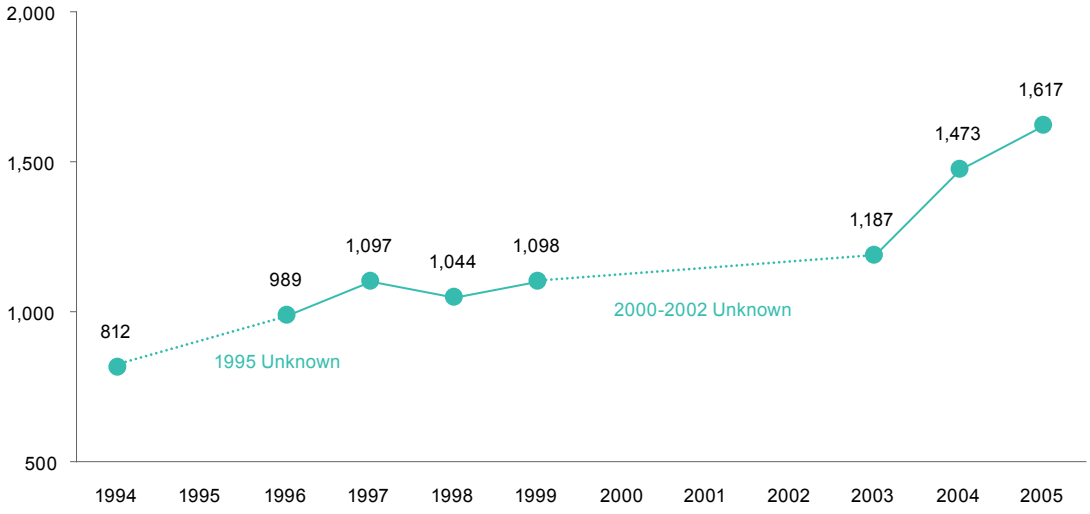
5 Based on responses to our first report, we re-categorized specialties into six categories; the manner in which specialties are assigned to categories is described in Appendix C.

Figure 2. MDs in Practice in Urban Areas of Arizona (1994 – 2005)



Source: AMB, 1994-2005

Figure 3. MDs in Practice in Rural Areas of Arizona (1994 – 2005)



Source: AMB, 1994-2005

Arizona Medical Schools and Residency Training Programs

There are two sources of new physicians for our state: physicians trained in Arizona who remain in Arizona to practice, and in-migration of practicing physicians from other states or countries. Arizona currently has one private osteopathic medical school and one public allopathic medical school. The osteopathic college, Arizona College of Osteopathic Medicine (ACOM) in Glendale, AZ (an affiliate of Midwestern University in Downers Grove, Illinois), currently graduates approximately 130 new physicians each year. The University of Arizona College of Medicine (UA) currently graduates approximately 110 new physicians each year. However, both schools have announced plans for expansion of their class sizes in the near future. In addition, a private osteopathic medical school affiliated with A.T. Still University is scheduled to open in Mesa, Arizona in 2007. Because of the small number of graduates from Arizona schools and our rapidly growing population, Arizona cannot rely solely upon its own medical schools as a source of future physicians. Indeed, analysis of licensure data indicates that the majority (89%) of today's Arizona physicians graduated from medical schools located outside of Arizona (Table 4).

Table 4. Percent of Active Arizona Physicians Born or Trained in Arizona

Percent of All Active Arizona Physicians Who…	In Arizona	Outside Arizona
Were Born	647 (6%)	10,969 (94%)
Graduated from Medical School	1,259 (11%)	10,357 (89%)
Completed a Residency Training Program	1,944 (17%)	9,611 (83%)

Source: AMB and AOB, 2005.

After completion of medical school, graduates begin residency training at a teaching hospital. Although it is possible to practice medicine as a general practitioner without completing a residency (i.e., after completing only one year of post-medical school training), many insurers will not credential these physicians and hospitals often will not grant these physicians staff privileges. Thus, almost all medical school graduates today enter a residency. ACGME accredits allopathic residency training programs in the United States. There are 8,037 ACGME-accredited resident training programs in the U.S. and 101,810 residents in training. ACGME programs train both MD and DO physicians. The majority of Arizona MDs completed their residency training in a program located outside of Arizona (Table 4). Because Arizona has only 1% of the total ACGME-accredited programs in the country (Table 5), even if the number of programs or "slots" for additional residents were to dramatically increase, Arizona will continue to rely upon residency training programs outside of Arizona as its major source for new physicians.

Table 5: Arizona Residency Training Programs, 2005

Specialty	Number of Programs	Total Approved Resident Positions	Actual Number of Residents	Percent of Positions Unfilled
Anesthesiology	1	30	30	0%
Emergency Medicine	2	78	62	5%
Family Practice	6	135	129	4%
Internal Medicine	5	268	238	11%
Neurosurgery	2	20	16	20%
Obstetrics	3	74	74	0%
Orthopedics	2	30	26	13%
Pathology	2	26	22	18%
Pediatrics	3	133	104	22%
Psychiatry	3	62	57	8%
Radiology	3	44	42	5%
General Surgery	4	118	108	9%
Cardiovascular Disease	3	30	27	10%
Gastroenterology	3	25	21	16%
Neurology	3	36	20	11%
Other	42	157	139	12%
Total	**87**	**1,266**	**1,115**	**12%**

Source: Accreditation Council for Graduate Medical Education (ACGME), www.acgme.org, 2005 data, accessed June 21, 2006.

Factors that influence a medical school graduate's choice of a specialty and residency program may include the nature of the workload of the training program (e.g., nights on call), as well as the educational quality of the available programs. Choice of residency is also influenced by the future income potential and lifestyle of practicing physicians (e.g., irregular work hours, night call) in each specialty (Newton, Grayson, & Thompson, 2005). For example, the percentage of practicing physicians in pediatrics, family medicine, internal medicine, and psychiatry in the lowest quartile of earners is higher than for other specialties (Gonzalez, n.d.). Also, physicians who practice pediatrics, obstetrics, surgery, and internal medicine can expect to have irregular work schedules and extensive night call responsibilities whereas physicians who practice dermatology, emergency medicine, and pathology are more likely to work fewer hours per week and have limited night call. The factors that influence a graduating medical student's choice of residency ultimately define the availability of specialists in different medical fields. Some residency programs in specialties (e.g., family practice, internal medicine) with low potential income and heavy workloads are having difficulty filling all available residency positions. In contrast, some specialties have more applicants than they can accommodate because of the popularity of the specialty and/or the limited numbers of residency positions in a specialty (e.g., dermatology).

From the late 1980s to the early 1990s, there was a marked decrease in the proportion of medical school students specializing in primary care (except pediatrics), which led to some education and recruiting efforts in the mid 1990s to boost the number of generalist physicians (Council on Graduate Medical Education [COGME], 1992; Institute of Medicine [IOM], 1996; Newton & Grayson, 2003). The market for generalist physicians also improved at this time due to the increasing presence of managed care plans. The downward trend in primary care interest reversed itself in 1993 and peaked in 1998; the proportion of U.S. medical

school students matched to primary care slots then declined again and continues to decline (Newton & Grayson, 2003).

In addition to a smaller proportion of new primary care physicians nationally (a trend not reflected in Arizona), there is a new awareness that lifestyle factors (e.g., control of work hours, allowing time for family and leisure, and providing ample income, among other factors) increasingly influence the choice of specialty (Newton et al., 2005). In Newton's study of fourth year medical school students at East Carolina University, specialties including radiology, emergency medicine, and anesthesiology were identified as "lifestyle friendly;" many primary care specialties, pediatric subspecialties, and orthopedic surgery were "lifestyle intermediate;" and general surgery and obstetrics and gynecology were "lifestyle unfriendly." Studies of physician attrition show generally that earnings and satisfaction with the community are most closely related to remaining in practice in a particular location (Pathman, Williams, & Konrad, 1996; Pathman et al., 2002).

The number of specialists in a field is also limited by the size of residency programs. The size of allopathic residency training programs is limited by the ACGME residency review committee for each specialty and is based on standards for education appropriate to the profession. Other factors that influence the number and types of residency programs include state and federal funding available to support the programs, access to faculty, and the availability of patients which are necessary for adequate clinical experience. ACGME has approved 1,266 residency positions for the 87 Arizona programs. The largest number of residency positions is in primary care specialties such as internal medicine, family medicine and pediatrics (Table 5).

The National Resident Matching Program (NRMP) matches medical school graduates with residency training programs annually. In March, 2006, 26,715 applicants participated in the "match" (National Resident Matching Program [NRMP], 2006). The percent of specialty positions that are filled in the match by U.S. medical school graduates is a good indicator of the specialty's popularity. For example, in 2006, family medicine continued its five year decline with only 41% of the available positions filled by U.S. medical school graduates. In contrast, 83% of general surgery positions and 72% of obstetrics/gynecology positions (two programs considered "lifestyle unfriendly") were filled with U.S. graduates (NRMP, 2006), contradicting the findings that "lifestyle-unfriendly" specialties would have increasing trouble matching residency slots. Programs that cannot fill all their positions with U.S. medical graduates often try to recruit qualified international medical school graduates.

Positions may also not be filled because the residency training program has insufficient funding, teaching faculty, facilities, or teaching patients to support the approved number of residents. Thus, increased funding for residency training positions often requires corresponding funding for the faculty, facilities, and teaching patients necessary to provide the resident with a good educational experience. Because physician faculty usually teach both medical students and residents, as the number of medical students in a community increases, the available patients and faculty that can assist with training residents decreases.

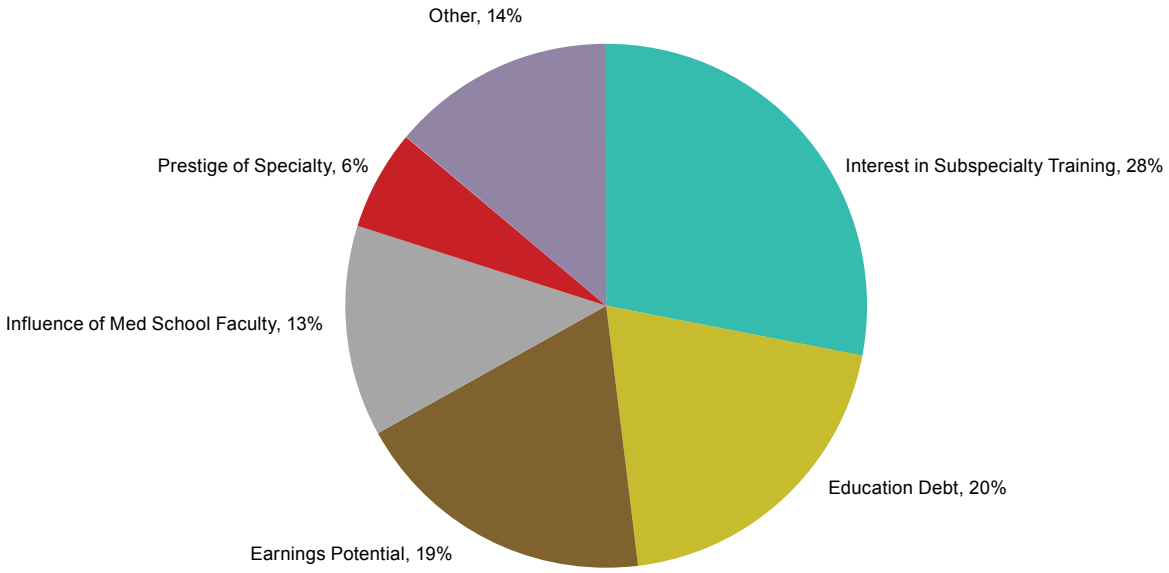
Approximately 12% of the ACGME-approved residency positions in Arizona were not filled in 2005. As noted above, the selection of specialty field by incoming residents, and the number of residents a training program can accommodate, is related to the number of specialists being trained and, in the future, the number of specialists available. ACGME programs train both MDs and DOs whereas programs accredited by the American Osteopathic Association (AOA) only train DOs. There are four AOA accredited osteopathic residency programs in Arizona which trained 13 residents in 2005 (Kemper, 2006). These residents are not included in the 2005 or 2006 Graduating Resident Survey, but we hope to include them in future surveys.

Concerns about the specialty and geographic distribution of physicians in Arizona have led to the study of Arizona resident physicians' choices of residency programs and their clinical practice locations. Because there is a general desire to improve access to primary care specialists and other frequently- or urgently-needed specialists (e.g., gynecologists) in rural areas (IOM, 1996), information about specialty choice is important for policymakers. In this section we provide some data from the Graduating Resident Survey on residency (specialty) choice, and on choice of the first practice location.

Graduating Resident Survey

The Graduating Resident Survey asks residents to recall their most important considerations in choosing a residency program. Respondents were provided with a list of 12 influences on their choice of residency programs (Appendix I). Each respondent was asked to rate each influence on a scale from five ("Very Important") to one ("Not Important") and were permitted to respond "Does Not Apply." The factors of influence receiving the highest ratings overall were the "lifestyle-friendly" factors of regular hours and family-lifestyle match, as well as availability of practice opportunities and interest in subspecialty training. Survey respondents were then asked to choose the single biggest influence on their choice of residency program (Figure 4). Although lifestyle factors were listed by many to be "Very Important," they were not the single biggest influence on residency choice. Interest in subspecialty training was the single biggest influence for most respondents followed by concern about their ability to pay off educational debt and earnings potential. This may help explain why fields such as general surgery and obstetrics/gynecology, associated with high income potential but not "lifestyle friendly," remain popular choices.

Figure 4. Single Biggest Influence in Residency Choice, 2005 (N = 135)



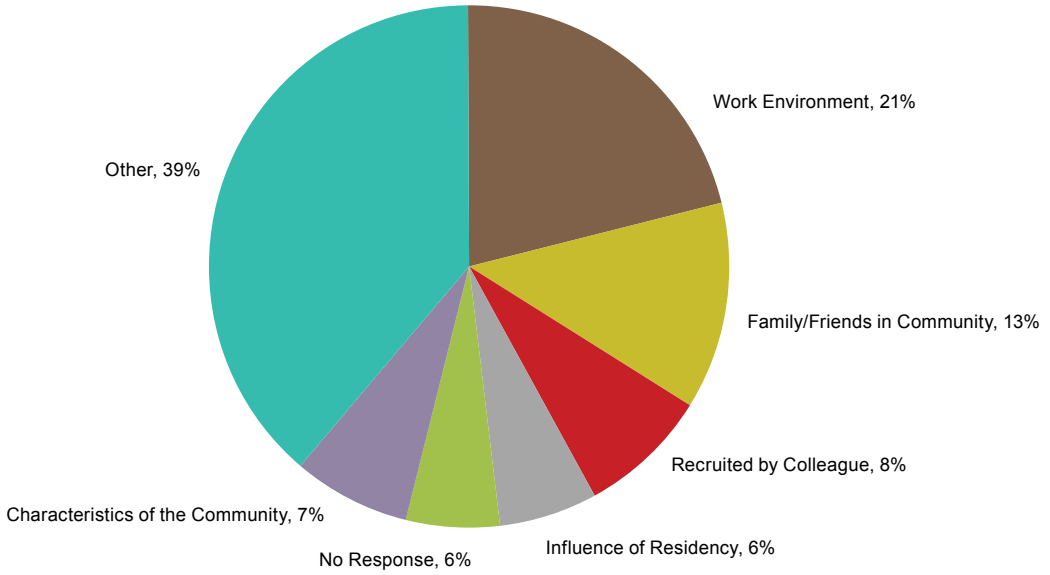
Source: GRS Data, 2005.

Note: 'Other' includes responses less than 5% of total response: regular hours, family lifestyle match, availability of practice opportunities, spouse's career match, availability of resident positions, and influence of rural rotations.

Thirty-seven percent of graduating residents grew up in a large metropolitan area, 23% in a medium-sized city, 28% in a small city or town, and 11% in a rural area. Forty-two percent took out traditional loans to finance their medical education; 39% had a scholarship. The average amount of educational debt for residents completing their training in 2005 was almost $190,000.

In addition to asking about reasons impacting the choice of residency program, the Graduating Resident Survey also asks graduating resident physicians to provide information about their initial position(s) as a practicing physician. Graduating residents responding to the survey were offered an average of 3.62 positions at graduation. In deciding where to practice, the highest-rated influences included the work environment (mean = 4.46, with 5 being "very important"), spouse's preferences in a place to live (4.25), the characteristics of the community (4.24), good benefits (3.90), professional contacts (3.84), and compensation (3.82).

Figure 5. Single Most Important Reason for Choosing First Practice, 2005



Source: GRS data, 2005.

Note: 'Other' includes responses less than 6% of total response.

Rural areas seem to fare worse than urban areas in recruiting physicians graduating from Arizona residencies to their communities. Only 16% of Arizona physicians practicing in rural counties completed their residency training in Arizona compared to 29% of physicians practicing in urban counties. Rural areas have been more successful in recruiting primary care and hospital-based physicians from Arizona residency programs than medical or surgical specialists. Only 10% of medical subspecialists and 11% of surgical specialists currently practicing in rural counties trained in Arizona (Table 6). Because rural communities usually do not have sufficient faculty, clinical experiences and research opportunities to serve as locations for medical schools or residency training programs, required short-term clinical rotations in rural communities during their medical education may be the only way to provide those who grew up in urban areas with clinical experiences in rural settings. Some medical schools and residency training programs do provide either voluntary or required short-term clinical experiences in rural settings, but the percentage of residents who have these rural experiences is still limited. For example, in medical school, only 17% of the graduating residents reported to have had clinical experiences in a rural or underserved area. The percentage of Arizona training program graduates who report these experiences is 38%. The effect such experiences have on choice of practice location, however, is not clear (Table 6).

Table 6. Physicians by Specialty Group, County of Practice, and Residency Location

	Urban Counties			Rural Counties		
Specialty Group	*Total Physicians*	*Residency in Arizona*	*Percent Trained in Arizona*	*Total Physicians*	*Residency in Arizona*	*Percent Trained in Arizona*
Primary Care	5,137	1,875	37%	1,002	186	19%
Medical Subspecialties	1,374	375	27%	184	18	10%
Surgical Specialties	1,825	315	17%	302	34	11%
Pediatric Subspecialties	147	29	17%	7	3	27%
Hospital Specialties	2,173	489	23%	325	52	16%
Other/Unknown	642	157	25%	97	13	14%
Total Physicians	11,298	3,240	29%	1,917	306	16%

Source: AMB and AOB, 2005. "Trained in Arizona" includes any training program (not just the program from which the physician graduated) in the data listed as "in-state".

Newly Licensed Physicians

For both urban and rural Arizona, physicians moving to Arizona from outside the state are the primary new source of physician manpower for Arizona. There were 1,346 new physicians (1,304 new allopathic and 42 osteopathic physicians) licensed in 2005, representing more than 10% of the total number of active Arizona physicians. Approximately 95% of the new physicians completed medical school outside the state and 86% of the new physicians completed residency training outside the state (Table 7). The most common specialties of the new licensees were internal medicine, family practice, anesthesiology, and radiology (Table 8).

Of the 808 respondents to the New Physician Survey, 479 were newly graduated medical residents; 107 of these newly graduated residents who responded to the survey (22% or 13% of all respondents) were from Arizona programs. Over one-third of all New Physician Survey respondents came from only four states: California (12%), Ohio (7.7%), New York (7.4%), and Pennsylvania (7.4%). These states are among those with the highest percentage of residents in the country (New York has about 14.9% of resident physicians, California 8.8%, Pennsylvania 6.7%, Illinois 5.4%, and Ohio and Massachusetts each have 4.7%. Arizona has 1.1% of the country's total resident physicians (Journal of the American Medical Association [JAMA], 2005, p.1132-3).

Table 7. Newly Licensed MDs and DOs with Training in Arizona

	Licensed in 2005	*Medical School in Arizona*	*Residency Training in Arizona*
MDs	1,304	66 (5%)	188 (14%)
DOs	42	6 (14%)	7 (17%)
Total Physicians	1,346	72 (5%)	195 (14%)

Source: AMB and AOB, 2005.

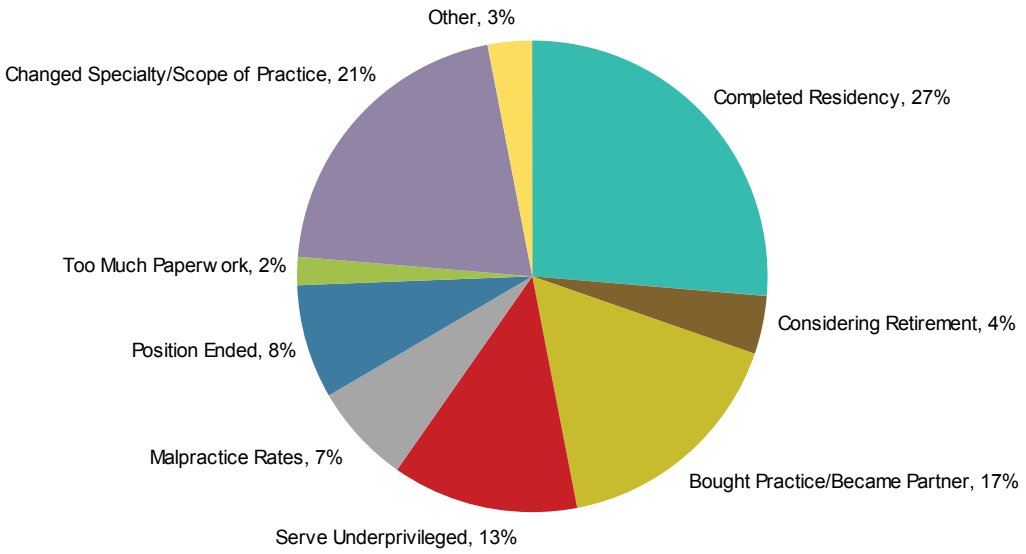
Table 8. New MD and DO Licensees by Specialty, 2005

Specialty	Number of New Licensees
Anesthesiology	114
Cardiovascular Disease	3
Emergency Medicine	64
Family Practice	119
General Pediatrics	72
General Surgery	36
Internal Medicine	277
Neurology	33
Neurosurgery	7
Obstetrics	50
Orthopedics	46
Pathology	38
Psychiatry	43
Diagnostic Radiology	112
All Other Specialties	332
TOTAL	1346

Source: AMB and AOB, 2005.

The New Physician Survey respondents stated that the most important factors influencing their practice location were characteristics of the community (e.g., schools, the cost of living, urban or rural lifestyle amenities), the existence of adequate health care facilities (e.g., hospitals, emergency rooms), and a good work environment. Least important factors were that they completed military service in the area, grew up in the area, or that their residency program was located in the area. In competing with other areas of the state and country for physicians, communities may do well to look at their own characteristics and their ability to meet the needs of physicians in both the personal and professional realms.

Figure 6. Reasons Physicians Decide to Relocate to Arizona, 2005 (N = 793)



Source: NPS data, 2005.

New Arizona physicians are needed to replace Arizona physicians who leave medicine. Physicians may leave medicine due to retirement, death, relocation to another state, or career change (e.g., leaving medicine to work in another field). First we consider physician retirement.

Retiring Physicians

Many expect that the exit of the baby boom cohort of physicians from the labor market will substantially reduce the supply of physicians in the U.S. Approximately 44% of Arizona's practicing physicians are over 50 years old. The aging of the physician population in Arizona will have an important impact on physician supply. While it is difficult to predict the retirement age of physicians, previous studies have shown that, on average, U.S. physicians decrease the number of patients seen per week after age 65 and retire when they are 69 years old (Konrad, 2005). In Arizona, the mean physician age is highest for the specialties of anesthesiology, pathology, and psychiatry (Table 11). Detailed information by age group for each specialty and county is provided in the Appendix B.

Table 8: Number of Physicians Who Will be Age 65 or Older in 2010, Specialty 1 only (N = 13,189)

Specialty	Apache[1]	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	*Maricopa*	*Mohave*	*Navajo*	*Pima*	*Pinal*	*Santa Cruz*	*Yavapai*	*Yuma*
Anesthesiology	0	2	1	0				67	1	0	24	0		5	2
Cardiovascular Disease		0						7		0	2	1			
Emergency Medicine	0	3	3	1		0	0	19	2	1	15	0	1	0	1
Family Practice	2	8	14	7	7	1	4	257	5	9	48	17	0	20	7
Gastroenterology	0	0	0	0				3			0	0			0
General Surgery		4	3	1	0		1	56	2	2	18	2	3	6	1
Internal Medicine	1	3	2	2	0		0	168	4	1	81	0	0	8	6
Neurology			0					15	1		7				
Neurosurgery		2	1					22	0	0	9	0		1	2
Obstetrics/Gynecology	1	0	2	2	0			82	2	1	21	1	1	6	2
Orthopedics		0	1	0	0			59	0	0	14	0		3	3
Pediatrics	0	2	5	1	1			97	2	2	34	4	0	3	4
Psychiatry		1	4	0		1		104	2	1	48	1		7	2

Source: AMB and AOB, 2005.

Note: Shaded squares indicate that the percent of physicians who will be age 65 or older in 2010 comprises at least 20% of the total physicians listing that specialty as their primary specialty; 26 physicians did not list any specialty.

Note: Because physicians working in federal facilities (e.g., Indian Health Service hospitals) are not required to have an Arizona license, the size of the physician workforce in counties with these facilities may be underreported.

Table 9. Number of Physicians Who Will be Age 65 or Older in 2010 (Specialty 1 only) and Percent of Total Physicians in the County Who Will be Age 65 or Older in 2010.

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Total physicians over 65 by 2010	4	25	36	14	8	2	5	956	21	17	321	26	5	59	30
Percent of County's total physicians	11	17	11	17	20	29	24	11	8	14	11	14	14	16	12

Source: AMB and AOB, 2005.

Note: 26 physicians did not list any specialty.

Note: Because physicians working in federal facilities (e.g., Indian Health Service hospitals) are not required to have an Arizona license, the size of the physician workforce in counties with these facilities may be underreported.

Current Distribution of Arizona Physician Specialties

Because physicians generally limit their practice to a geographic area and specialty, the access of Arizona residents to medical care is in part determined by the types of care provided in their local area. Rosenthal et al. (2005) found that overall geographic access to physician services has improved over the past decade, but that states in the south and west generally faced poorer geographic access than other regions of the United States. A number of studies have found that increased physician availability leads to better health outcomes for populations (Roetzheim et al., 1999; Roetzheim et al., 2000; Ferrante, Gonzales, Pal, & Roetzheim, 2000; Shi et al., 2003), although not necessarily to decreased use of care (Pathman et al., 2006). Nationally, a number of physician specialties have issued or provided data for reports which point to shortages in particular specialties and the impact of the aging of the "baby boom" physician workforce. These include Allergy and Immunology, Cardiology, Dermatology, Medical Genetics, Radiology, Geriatric Medicine, Neurosurgery, Psychiatry, Pediatric Subspecialties, and Endocrinology (American Association of Medical Colleges [AAMC], 2006).

In our previous report (Johnson et al., 2005), we reported the primary specialties of Arizona physicians in 2004 by dividing physicians into five types of specialties: primary care, surgical specialties, hospital based specialties, medical subspecialties, and other specialties. For this report, we have added a sixth group of pediatric subspecialties to address reports of shortages of some pediatric subspecialties. Appendix C describes the classification of specialties into the six groups. Specialties are self-reported by the physician and may not represent the specialty in which the physician received residency training, obtained board certification, or the field of medicine in which he or she provides most care. A physician is permitted to list more than one specialty on his or her license application or license renewal information. To determine the specialty in which a physician provides care, we looked at the first two specialties listed by the physician on his or her license information. One-third of physicians list more than one specialty area. For each specialty, we included each physician who listed that specialty as either a primary or secondary specialty as a member of that specialty practice group. Table 10 describes the number of physicians listing certain specialties as their primary or secondary field of practice.

Table 10. Urban/Rural Distribution of Specialties by Specialty Group, 2005

	Listed As Specialty 1		*Listed As Specialty 2*	
Specialty Group	Urban	Rural	Urban	Rural
Primary Care	5,114	998	1,208	210
Medical Subspecialties	1,387	185	805	108
Surgical Specialties	1,825	302	539	71
Pediatric Subspecialties	170	11	118	13
Hospital Specialties	2,173	325	777	114
Other/Unknown	629	96	556 (Other only)	60 (Other only)
Total Physicians	11,298	1,917	4,003 (35%)	576 (30%)

Source: AMB and AOB, 2005.

There were 13,215 physicians in practice in Arizona and an additional 8,948 physicians licensed in Arizona but residing out of state. The population in Arizona in 2005 was 6,044,985 (Arizona Department of Economic Security [DES], 2006).

In order to more completely assess the distribution of Arizona physicians, we further analyzed physicians by specialty and county. Approximately 84% of Arizona primary care specialists (pediatrics, internal medicine, and family medicine) practice in Maricopa or Pima County while 16% practice in the other more rural counties (Table 1). There are family physicians in every Arizona county, but two counties do not have a pediatrician and one county does not have an internal medicine specialist (See Appendix D). Among the surgical specialties, two counties do not have any general surgeons or obstetricians. Only four counties have a neurosurgeon. There are no specialists in either cardiovascular medicine or gastroenterology in five counties, and no neurologists in six counties. Three counties do not have an orthopedist and four counties do not have an anesthesiologist or psychiatrist. However, it is important to note that physicians who practice solely in a federal facility (e.g., Veterans Administration hospital, Indian Health Service hospital) do not have to obtain an Arizona license. Therefore, counties in which a large percentage of the physician workforce are working in these types of facilities (e.g., Apache County) may have more physicians in practice than can be determined by Arizona licensure data.

Some counties may lack the necessary medical facilities to support physicians in a specialty area and thus will neither be able to attract nor support the technical requirements of these specialists. For example, counties without a hospital or surgical center will not be able to utilize an anesthesiologist or surgical specialists and most cardiologists and gastroenterologists will require advanced radiological imaging services (e.g., fluoroscopy) in order to practice in an area.

In addition, some counties do not have a sufficient patient population to support physicians in many specialty areas. It is unlikely, for example, that a neurosurgeon would have a sufficient number of patients to maintain her/his practice in rural areas. Also, some counties may have a sufficient number of patients for one physician but cannot support two or more physicians. In these cases, it will be difficult to attract a physician because the solo physician must be available every night and weekend for their patients which can be mentally and physically exhausting. As noted in Appendix D, many counties have only one or two physicians available in a specialty area; these counties may be at risk of losing these physicians because of the heavy night and weekend call schedules and little vacation time. These physicians find it difficult to take a vacation, because they often must hire a physician from outside their community to cover their practice in their absence or leave the community without a physician in their absence.

For some rural communities, the burgeoning field of telemedicine can help address their physician shortages by providing the opportunity for the local physicians to consult with specialists either by video conferencing or electronic transfer of patient information. For example, a community that does not have a radiologist can obtain a report on an x-ray performed in their community by electronically transmitting the x-ray to a radiologist working in another community. Similar techniques can be used to send electrocardiograms and pathological specimens to specialists outside the community who then can electronically send a report back to the physician. This approach will, however, be helpful primarily to those specialties who do not require direct contact with patients.

Despite the increase in the supply of physicians in 2005, the Arizona physician-to-population ratio is still far below the national average. Arizona's community characteristics and practice opportunities are the two most important reasons physicians consider when they move to this state, and the vast majority of new physicians continue to come from outside of Arizona.

While all of Arizona saw increases in physician supply, the disparate geographic distribution of physicians continues. This disparity is even more evident when distribution by specialty is examined; some rural counties have no physicians in one or more specialty groups. This geographic disparity in physician distribution is compounded by the likely retirement of elderly physicians in several specialties in a number of rural counties, especially for specialties where the average age of their specialists is 60 years old or more. Although we did not study out-migration of physicians to practice elsewhere, this is also a factor in attempting to predict physician supply and is a part of our planned future efforts.

The concerns over physician distribution—especially distribution by specialty—raised in this report indicate the reasons why physicians choose their specialty and practice location needs to be assessed if we wish to improve Arizonans' access to care and health outcomes. There is some evidence that the size and specialty distribution of the physician workforce correlates with the overall health of a community (Roetzheim et al. 2000).

A simple "headcount" of Arizona physicians, however, is an incomplete measure of the supply of physician services. Ricketts et al. (2000) found, by using data similar to our data from the states of North Carolina and Washington and national estimates of productivity data, that estimates of Full-Time Equivalent (FTE) physicians were 14 % lower than the headcount in North Carolina and 10 % lower in Washington. Without a discussion of productivity, our counts of physicians may under- or over-estimate the availability of physician services to Arizonans. Thus, in the following section, we have utilized the findings of our physician surveys to assess physician productivity.

Section II – Physician Productivity

The supply of physician services in Arizona depends not only on the number of physicians but also their productivity. The most common method used to measure physician productivity in the workforce literature is by determining the number of patient visits per week per physician. It is important to recognize, however, that using patient visits per week as a measure of productivity does not capture all the clinical work of physicians since they also provide care for patients, for example, via phone and email. In addition, some physicians may choose to schedule patients for longer visits and address all of the patient's problems in one visit while others might choose to have shorter visits more frequently.

Previous studies have shown that physician productivity also varies with practice setting (e.g., group vs. solo practice), age, and gender of the physician. There are wide variations among physicians in the number of patient visits per week that may be related to differences in physician training, community resources, physician specialty, level of inpatient activities, physician experience, and their scope of practice (Larson et. al., 2003). Obviously, the number of patients seen per week is also related to the number of hours per week that a physician chooses to work

Among PCPs, the average family physician provides 105 ambulatory patient visits each week, a general pediatrician 95, and a general internist about 65 (Randolph, Seidman, & Pasko, 1997, in Larson et al., 2003). PCPs often have shorter visits and more visits per week on average compared to specialists such as surgeons who may perform a long and complicated procedure during a single visit.

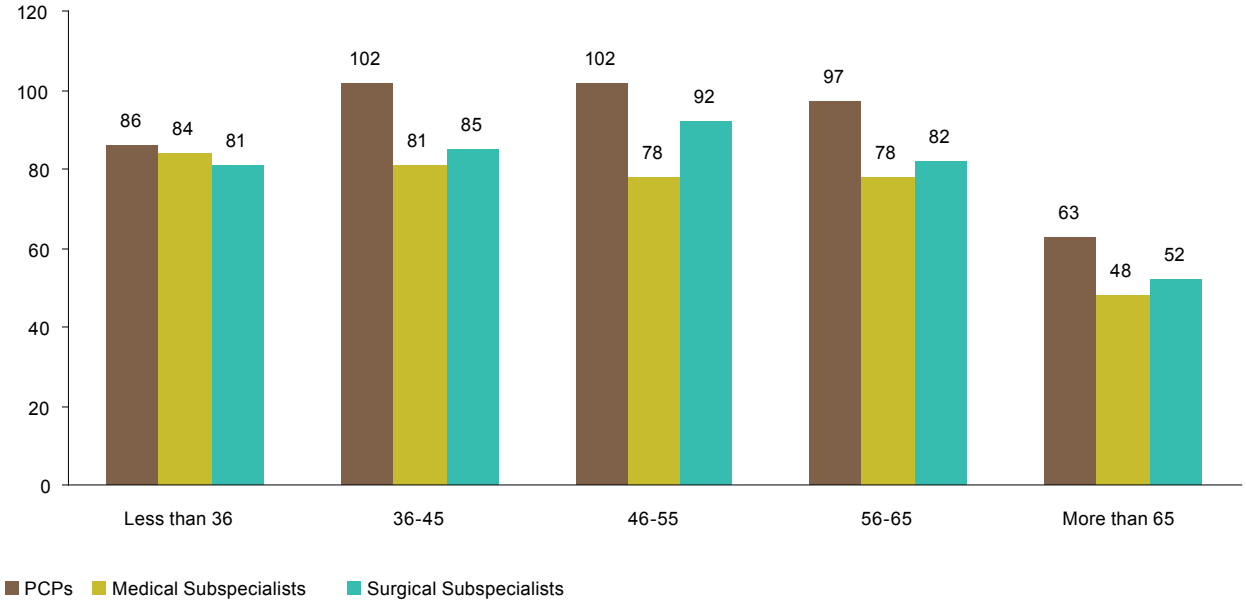
The Arizona Practicing Physician Survey asked physicians to estimate the number of hours worked per week, weeks worked per year in clinical practice, and the average number of patients seen per week. Analysis of this survey revealed that:

- The average number of patients seen per week increased from 69 patient visits per week in 1994 to 84 in 2004-2005.[6]
- The number of patients seen per week varied by specialty. For example, anesthesiologists reported an average of 37 patient visits per week, cardiologists 106, family practitioners 95, internists 85, obstetricians 90, and surgeons 52.
- The number of patients seen per week in rural areas was significantly higher than in urban areas.
- The mean number of patient visits per week varied with practice setting.

Figure 7 compares the mean number of patients seen per week with physician age for PCPs, medical subspecialists, and surgeons. For all age groups, PCPs see more patients per week than other specialties. For each specialty, the number of patients seen per week was similar for physicians between the ages of 36 and 65 years. However, productivity decreased dramatically after age 65, perhaps due to older physicians decreasing work hours and changing scopes of practice. Indeed, in all three specialty categories, physicians over 65 years old saw approximately 30 fewer patients per week than younger physicians. These data are presented in Appendix E for each specialty group.

6 In 1994, all physicians took the PPS annually. In 2004-2005, only half the physicians took the survey each year.

Figure 7. Average Number of Patients Seen Per Week By Provider Age and Specialty Group, 2005



Source: AMB and AOB Administrative and Survey data, 2003 – 2005.

Productivity and Gender

It is expected that by the year 2020, 45% of all practicing physicians will be women (Cooper, 2004). A number of national studies from the 1990s reported that female physicians worked fewer hours than men. (Government Accountability Office [GAO], 16th Annual Report, 2005) The increase in the proportion of physicians that are women would, if the studies are correct, suggest that physician productivity, all else equal, will decline as the percentage of physicians who are women increases. However, when we examined hours worked by specialty among Arizona physicians in the 2004 – 2005 survey, many of the initial differences between men and women physicians seen in 1994 had either decreased markedly or disappeared as shown in Table I. For example, in 1994, female physicians in family medicine, obstetrics, orthopedics, and pediatrics saw significantly fewer patients per week, on average, than male physicians in these specialties. By 2004 – 2005, however, the only specialty with a significant difference in productivity between men and women was family medicine. When we examined hours worked by specialty among Arizona physicians, the differences between men and women were small in average number of patients seen per week as well as the average number of hours worked per week (See Appendix E).

Non-physician Clinicians (NPCs)

Non-physician clinicians, who include advanced practice nurses (also known as Nurse Practitioners, or NPs) and PAs, are health care providers whose scopes of practice include providing some health care services that are also provided by physicians. About 50% of PAs and NPs work in primary care fields. PAs are more likely to work in surgical specialties than NPs. There are approximately 110,000 PAs and NPs in active clinical practice in the U.S. in 2006 (Hooker, 2006). The scope of practice for these NPCs is set by state licensing boards. In Arizona, NPs are licensed by AZBN and PAs are licensed by the AMB. In Arizona, NPCs can diagnose and manage acute and chronic illnesses and prescribe medications (Health Resources and Services Administration [HRSA], 2000). Thus, they can in some cases substitute for physicians in

communities which have a shortage of physicians and increase the productivity of physicians when they work in the same setting as physicians. However, because there are limitations in the range of services that can be provided by NPCs, substituting an NPC for a physician in a community will necessarily limit the scope of services available. For example, a NPC trained in women's health may be able to provide contraceptive care when a physician trained in gynecology is not available but will not be able to care for women who need gynecologic surgery. In Arizona, there were 2,304 NPs and 1,232 PAs licensed in 2005 (Table 11). We do not yet have data that can be used to assess the productivity of NPCs but hope to be able to survey them for future reports regarding hours worked per week and number of patients seen. However, there is evidence that approximately 90% of PAs but only 50% of NPs work full-time (more than 32 hours/ week; Hooker & Berlin, 2002).

Approximately 25% of all NPs and PAs in the U.S. work in non-metropolitan areas (Hooker, 2006). In Arizona, 19% of NPs are located in rural areas compared to 26% of the PAs (Table 11). In some rural counties, PAs represent a large percentage of the physician workforce population. For example, 50% of the providers in Greenlee County are PAs (Appendix F).

Table 11. Medical Care Workforce Practice Location, 2005

Location	MDs	% Total MDs	DOs	% Total DOs	NPs	% Total NPs	PAs	% Total PAs	Total Providers	% Total Providers
Rural	1,589	14%	293	18%	433	19%	323	26%	2,638	16%
Urban	10,000	86%	1,299	82%	1,871	81%	909	74%	14,079	84%
Total	11,589	69%	1,592	10%	2,304	14%	1,232	7%	16,717	100%

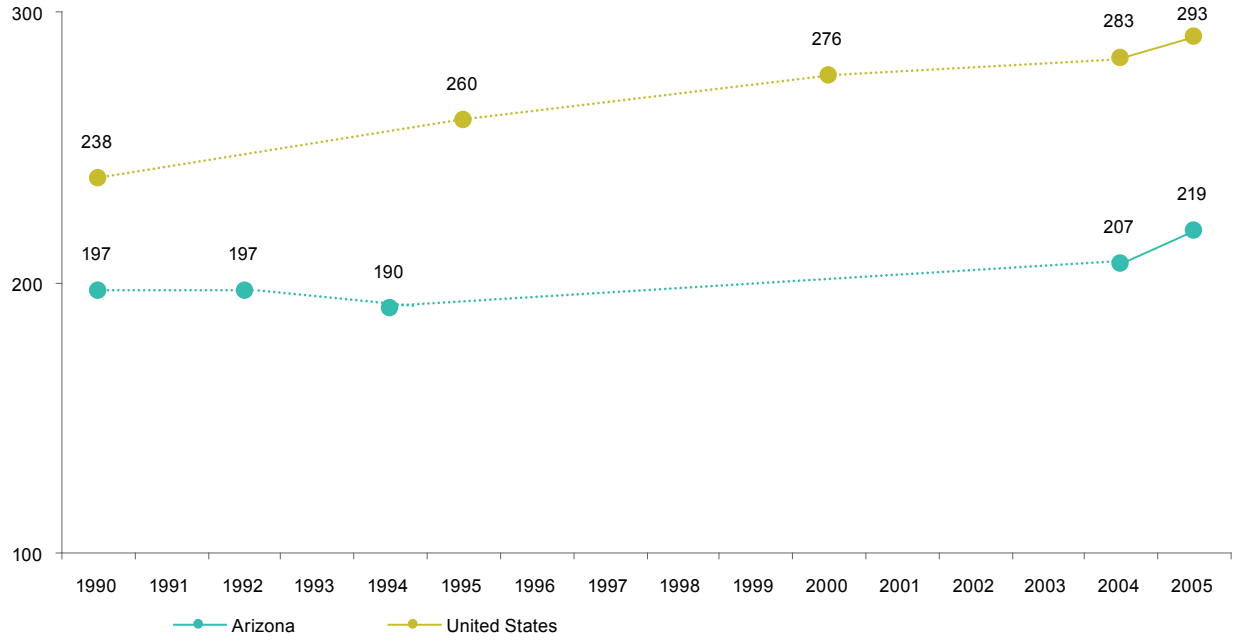
Source: AMB, AOB, and BON, 2005

Note: Urban includes Maricopa and Pima counties, rural includes all other counties.

In addition to the difficulty in counting physicians or physician-equivalents and gauging the impact of the maldistribution highlighted in this report, physician productivity models are further confounded by measurement disagreements. While the number of physicians and the number of visits per physician are indeed measurable, David Goodman (2004) proposes that health outcomes, rather than physician outputs such as visits or other medical services produced by physicians, are the proper measure of physician productivity. Goodman finds that staffing levels vary widely by region, and that there has been little improvement in regional health outcomes given the increases in physician-to-population ratios. Goodman states that adequate care can be provided "…with clinician (physician and non-physician providers) labor inputs that are 64 – 76 percent of overall U.S. levels" (Goodman, 2004, p. W4-68). Weiner (2004) used an average physician-to-population ratio of 280/100,000; by our measure, Arizona's ratio has been approximately 79% of that national figure (Figure 8), and much less in most rural regions of the state, so it seems prudent to attempt to forecast Arizona's demand and supply of physician services in the future.

The physician workforce in Arizona continues to increase, largely by in-migration, at pace with population growth (Figure 8). There is a need, however, for continued assessment of the specialty and geographic distribution of physicians to determine if changes need to be made in Arizona health policies, medical education funding, and licensure to encourage the recruitment of the right physicians for each Arizona community. In addition, we need to monitor the health needs of our communities in order to determine if the supply and productivity of Arizona physicians is meeting the need for physician services.

Figure 8. Physician to Population Ratio for Arizona and the U.S. (1990-2004)



Section III: The Requirement for Physician Services

The most common methods of predicting the requirement for physician services are trend forecasts, demand models, or predictions based on criteria for optimal care or needs for health care. Some methods combine aspects of two or more of these approaches.

Trend Forecasts

The simplest type of forecasting model extrapolates from historical trends without regard to the nature of the structural influences that created the trends. In effect, trend forecasts assume that the relationships among the different influences on physician supply do not change over time. A trend forecast may be made by simply extrapolating a moving average generated over some past time period to the future or by estimating a trend equation in either a linear or non-linear functional form using regression analysis.

Trend equations estimated by regression analysis may include adjustments for events known to have shifted the trends at different points in time, without affecting the underlying structural relationships. In the current context, for example, one could estimate a trend equation that included binary variables for major policy changes affecting the financing of graduate medical education in the United States. A representative assumption of such an approach would be that the number of graduates per year changed but that the relationships among the underlying influences (other than financing) on numbers of graduates remained the same. (e.g., the slope of the trend is the same but the entire trend line is shifted upward or downward)

Trend forecasts offer the advantage of simplicity by avoiding the complex tasks of identifying the structure of the processes by which persons are attracted to careers; defining the processes by which they are trained and assuming that neither process changes significantly in the future. The simplicity of trend forecasts is,

of course, also their major limitation because the relevant processes may not follow historical patterns. The second important limitation is that trend forecasts rarely identify targets for policy interventions designed to alter trends.

It is reasonable, however, to begin the prediction of the supply of physicians by using trend forecasts. The results can be used as a test of the marginal benefits of more complex forecasts. The more complex a model, the more sensitive are the predictions to error, all else equal. Unless the predictions generated by more complex models are significantly better than trend forecasts, the additional complexity and potential increase in uncertainty may not be worth the effort required.

Demand Models

Trend models effectively predict the supply of physicians without regard to any criteria concerning the need for care or optimal levels of supply. Demand based models, at least in concept, measure demand (the number of physicians for which there is a demand and the ability to pay for their services) without regard to measures of need or optimal care. The supply of physicians may or may not equal the demand for physicians in any time period. Observed differences between the predicted demand for physicians and the observed or predicted supply of physicians serve as measures of either shortages or surpluses. It is important to reiterate, however, that models of demand do not typically include criteria for the need for care as defined by clinical standards.

The demand for health care is influenced by many factors, including public demand for the use of new technology, a public desire to have life-sustaining and life-enhancing care, and consumer responses to direct advertising of drugs and other remedies. The rapid aging of the population in the next decade is one of the most important influences on the demand for health care. Although subject to dispute, the effect of population growth on the demand of health care also may be compounded by the increase of diseases related to lifestyle, such as obesity.

The demand for health care is also affected by the economic status and health insurance since patients must have sufficient income to purchase services. If the estimated 45 million uninsured Americans had health insurance and utilized health care as the currently insured U.S. population, the physician workforce would need to increase by 95% by the year 2020 (COGME, 2005, Table 21).

In 2002, Cooper, M.D. and colleagues published a new model of demand for physician services, based on historical correlations between measures of economic activity and the supply of physicians (Cooper, Getzen, McKee, & Laud, 2002). Adjustments to the forecasts include assumptions concerning future productivity of physicians and the increased use of non-physician professionals. This study found a long-term relationship between per-capita Gross Domestic Product (GDP) and physicians per capita over the period of 1929 to 2000, and predicts that in 2010 demand for physician services will outstrip supply by 50,000 physicians nationwide (about 6% of expected demand). By 2020, the shortage of physicians is expected to reach 200,000 physicians, which exceeds 20% of expected demand.

Need Based Models

In 1980, the Graduate Medical Education National Advisory Committee (GMENAC) predicted that there would be a general surplus of physicians in the year 2000, but a shortage of primary care physicians. These results were supported by a series of studies done for COGME during the 1990s. These studies commonly

determined the tasks necessary to care for a population and the time (or FTE physicians) required to perform those tasks. The predictions made by these models have not, however, been confirmed by actual reports of physician surpluses (Figure 9).

Section IV: Predicting the Future Physician Workforce in Arizona

The Accuracy of Previous Forecasts

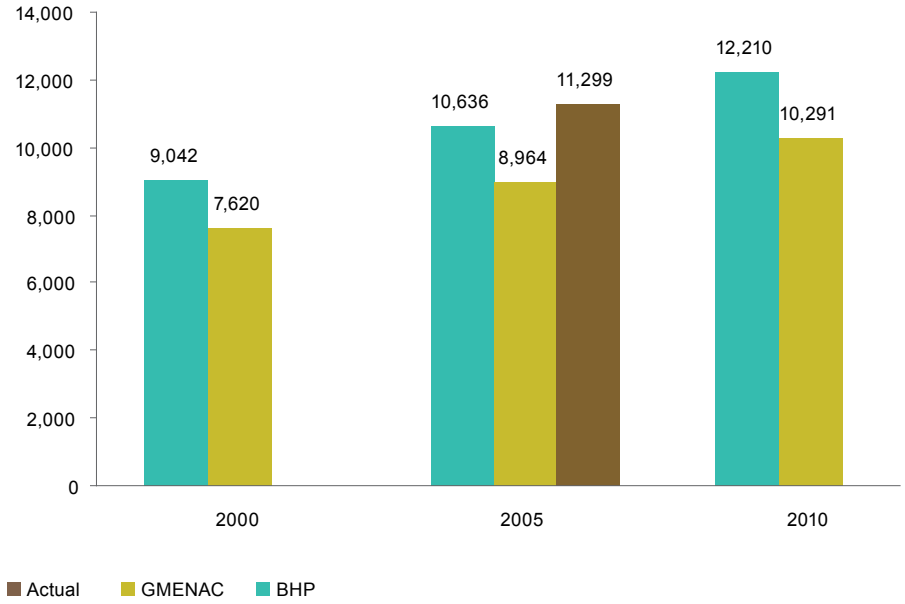
One measure of the accuracy of trend forecasts of physician supply for Arizona is the comparison of previous forecasts to observed changes in supply. The first report on the supply of physicians in Arizona was published in 1989. The report, *Arizona Physicians Today and Tomorrow*, estimated the number of physicians needed in Arizona by 2000 (Flinn Foundation, 1989). The estimates combined population projections from the Arizona Department of Economic Security (DES)[7] with targeted physician-to-population ratios. Two alternative criteria were used to make the projections. The first criterion was the Bureau of Health Professions' (BHP) recommended ratio of 231 physicians per 100,000 people. The second criterion was GMENAC's recommended ratio of 195 physicians per 100,000 people. Thus, using the DES Arizona population estimate (1989) of 4.7 million in 2000, projected needs were for 10,800 (BHP) and 9,100 (GMENAC) physicians, respectively. In urban areas, which were estimated to have a population of 3.6 million in 2000, the physician needs were estimated to be 8,300 (BHP) or 7,000 (GMENAC) physicians. The report also applied the BHP and GMENAC ratios to the DES rural population projection, producing a projected need between 2,500 and 2,100 physicians in rural areas by the year 2000. Assuming the continuation of the 1987–1992 trends, the estimated number of physicians practicing in rural Arizona was predicted to be only 1,000 physicians and the estimated number of urban physicians would have been approximately 9,700.

Thus, although the projected number of physicians in practice in urban Arizona met or exceeded the projected total needs, the report predicted a shortage of physicians practicing in rural areas. However, the urban population in 2000 actually was 4.7 million, and thus using the BHP and GMENAC criteria, the actual needs were 9,042 physicians (BHP) or 7,620 (GMENAC; see Appendix G). The best available estimates of physician supply for the year 2000 suggest that the number of active physicians (both MD and DO) in urban areas was slightly more than 8,000 physicians. The difference or shortage between need and supply ranged, therefore, from an excess of supply over need (surplus) of about 400 physicians to an excess of need over supply (shortage) of about 1,000 physicians.

A series of seven reports on physician supply and graduate medical education in Arizona was published between 1992 and 1997. These reports were based on survey data and licensing data collected as part of the process of licensing physicians. The data were collected by the ASU's School of Health Management and Policy (SHMP) under the auspices of the Arizona Council for Graduate Medical Education (AzCGME) and sponsored by the Flinn Foundation. The studies showed that the growth in the number of Arizona physicians kept pace with population growth, but there were disparities in the distribution of physicians between rural and urban areas such that there would be a shortage of 1,400 physicians outside of Maricopa and Pima counties by 2000 relative to the levels suggested by GMENAC or BHP (Johnson et al., 1992). The 1996 report also predicted that the number of specialty physicians would decrease in future years (Thornton et al., 1998).

7 DES estimate from: *Arizona Business,* February 1992.

Figure 9. Projected Arizona Urban Physician Need, 2000 – 2010



Note: Bureau of Health Professions (BHP) estimates 231 physicians per 100,000 population, Graduate Medical Education National Advisory Committee (GMENAC) estimates 195 physicians per 100,000 population. Year 2000 is based off an estimated urban population of 4.6 million. The year 2010 is based off a projected urban population of 5.3 million.

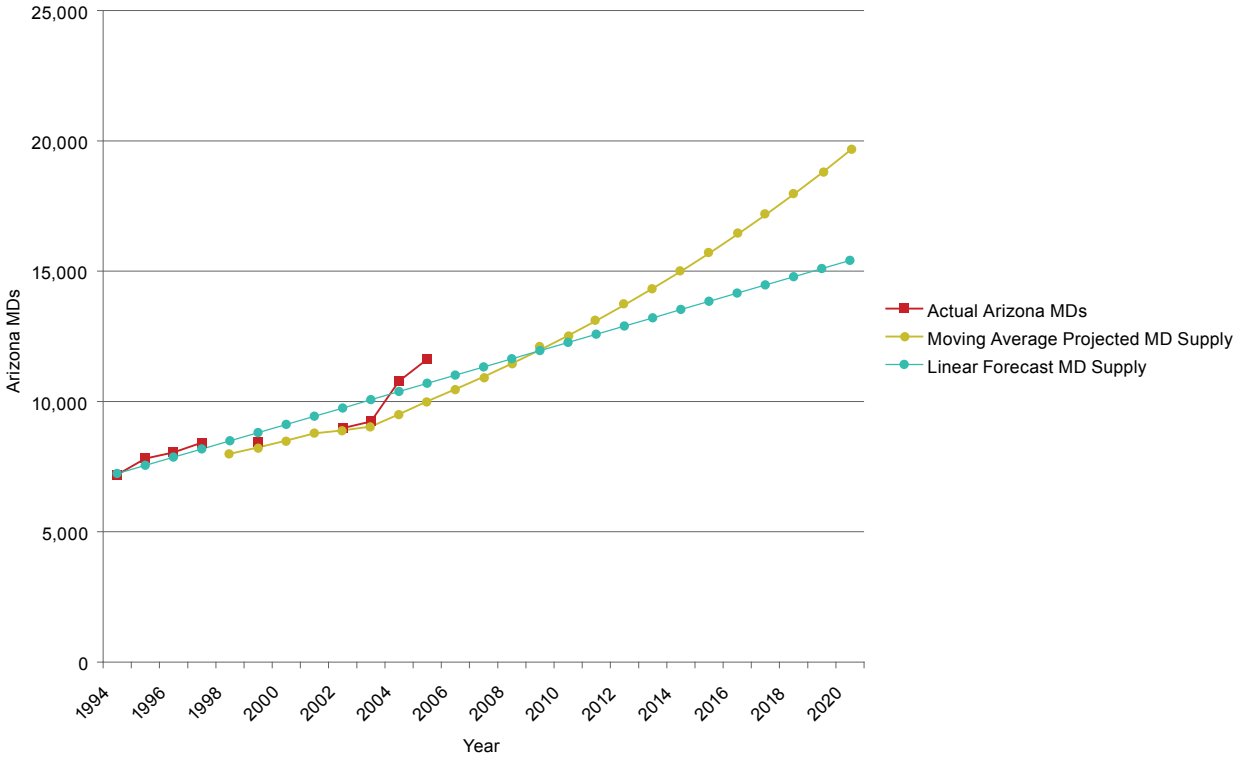
Trend Projections

The absence of information on doctors of osteopathy in many of the years from 1994 – 2002 restricts the trend forecasts to allopathic physicians. The demand projections are not limited to allopathic physicians so it is reasonable to compare the estimated demand in each of the years for which the supply of osteopathic physicians is known to get a more accurate measure of the shortages that are predicted.

The moving average estimates of the number of Arizona physicians underestimate the actual number of active allopathic physicians in every year. The linear trend equation projections tend to overestimate the early years and underestimate supply in more recent years. Both sets of results reflect the fact that the increases in the numbers of allopathic physicians increased at a relatively low rate of change until 2003 but increased by approximately 17% between 2003 and 2004, or nearly twice the average annual rate for the period from 1994 to 2003. The increase between 2004 and 2005 was 8%. The rates of increase for osteopathic physicians were not available from for 1994 to 2004 but was 20% for 2004 – 2005.

The mechanics of moving average projections are that the results reflect past behavior, smoothing out periodic variations. Thus, the recent above average increases for only two years will not be reflected by the moving average estimates unless the rates of increase continue to exceed those of the period from 1994 – 2003. Regression models, such as the linear trend projection, are designed to "split the difference" between higher and lower values. Although the mechanics are straightforward, the question raised by the results is whether there is reason to believe that the increase in supply from 2005 – 2006 will continue at rates above the historical average.

Figure 10. Trend Forecasts of Physician Supply



Forecasts based on the moving average method estimate that there will be 19,633 active allopathic physicians in Arizona by the end of 2019 and the linear trend estimate is 15,412 active allopathic physicians. Expressed as a ratio per hundred thousand persons in the population, the estimates translated into 224/100,000 (moving average) and 176/100,000 (linear trend; See Appendix H).

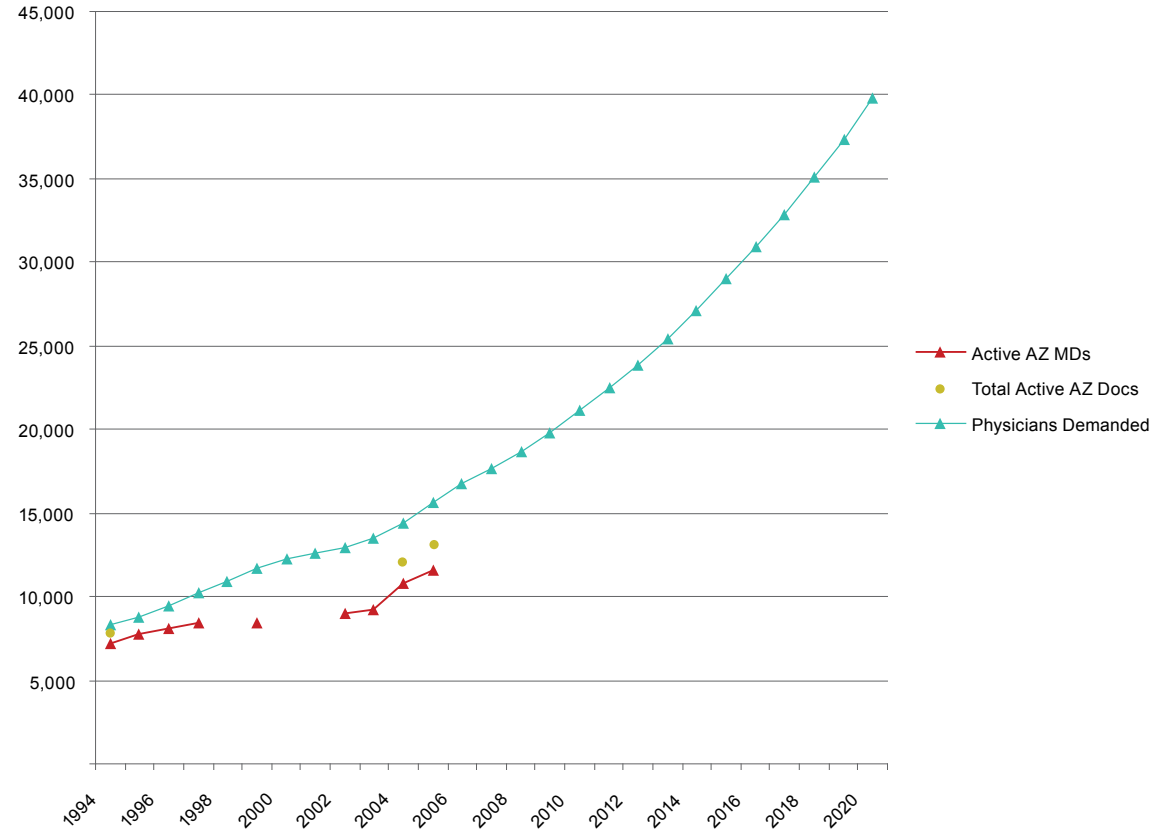
The answer to the question of whether above average rates of increase will continue cannot be answered by either the moving average or the trend projections since both methods simply extrapolate history without attempting to define the structural influences that determine changes in supply.

Demand Forecasts

The trend equations based on the demand model predict increases in the demand for physicians at increasing rates. The estimates from the base year (1999) are well above the observed supply of physicians in Arizona indicating a shortage in the supply of physicians. The shortage is defined in terms of an excess of (estimated) demand over the observed supply without any reference to a standard for an optimal number of physicians. The projected demand estimates for the years from 2006 to 2020 indicate a growing shortage of physicians when compared to any of the predicted trends in the supply of physicians.

The demand projections are not limited to allopathic physicians so it is reasonable to compare the estimated demand in each of the years for which the supply of osteopathic physicians is known to get a more accurate measure of the shortages that are predicted. The years for which the MD plus DO physician supply is known are 1994, 2004, and 2005. The total number of physicians was 12,024 in 2004 and 13,215 in 2005. The demand forecast predicts a demand for 14,389 and 15,060 physicians respectively for these years. Thus, the estimated shortage of physicians is approximately 2,400 and 2,218 physicians, respectively, based on the projected demand.

Figure 11. Cooper Projection vs. Actual Physicians, 1994 – 2020



Another approach to estimating the physician shortage is to compare the differences between the physician-to-population ratios of Arizona with the demand model. The demand model predicts a level of physician demand much higher than Arizona's current physician-to-population ratio of 219/100,000 in 2005 (Figure 11). The general trend of Arizona's physician-to-population ratio appears to be negative (as the population increases, the physician-to-population ratio decreases), indicating that in general, we would predict demand for physician services to increase more rapidly than the supply of physician services, worsening current shortages. But the last two years have not followed this trend. The growth in the physician-to-population ratio in 2004 and 2005 may be outliers to the general trend, or they may be a reversal in the trend, perhaps signaling an underlying structural change in the supply of Arizona physicians.

Need Based Forecasts

There are a number of trends that influence the need for health care in Arizona. Chief among these are changes in the population. Because of Arizona's tremendous population growth over the past 12 years, the state needed a similar increase in the number of physicians in order to meet the health care needs of Arizonans. In addition, the elderly population in Arizona grew 40% from 1990 to 2000 compared to a 12% increase in this age group nationally over this same time period. Finally, in Arizona as across the U.S., the baby boomers (those born between 1946 and 1964) will suffer more chronic diseases and use more costly health care resources as they age. For example, it has been estimated that the prevalence of heart disease will increase by 16% per decade from 2000 – 2029 because of this (Foot, Lewis, Pearson, & Beller, 2000). In addition to population changes, increasing life spans, changes in the ethnic and racial diversity of the population, and personal behaviors will have an impact on future health.

Although there are significant limitations to the demand based and need based criterion, they are probably better measures of the adequacy of physician supply than trend projections. Using demand or need criterion, for projections, it is anticipated that despite recent increases in the physician workforce, shortages will persist and likely increase in the future.

The GMENAC need based predictions, for example, indicate that the current supply of physicians in Arizona is sufficient to meet the need for care. The need based projections are based on national averages and unusual characteristics of the population of Arizona. The conclusion that the supply of physicians is adequate is at odds with nearly every study or commentary on Arizona. Although it might be possible that needs for care are substantially less than demands for care, the evidence of long waits for physician care and the differences between national ratios of physicians to population and the ratios in Arizona suggest that the needs based estimates are unreliable. Our estimate of a shortage in physicians is based on the demand model projections. There are, of course, weaknesses in this model as well. For example, the model presumes to forecast current demand based on historical supply. But the demand model reflects the recent growth of the physician population in Arizona better than other models, so we have used this model for our current estimate of a physician shortage. We urge caution, however, in longer-term forecasting with this model.

The supply forecasts that we have described do not allow for the possibility of changes in the incentives or recruitment practices that could emerge in response to a continuing shortage of physicians. It is possible, therefore, that the size of the potential shortages will not be realized because of changes in policy toward physician recruitment and retention.

There are, however, also changes that are not represented that can have the effect of increasing the need for physicians in Arizona, among which the aging of the baby boom generation is the most important. The current trend forecasts assume implicitly that the age distribution of the population in Arizona is changing in accordance with the actual trends from 1994 to 2004. However, it is likely that proportion of the population that is elderly will increase as the baby boom bulge in the population ages and health care utilization by this group will increase the need for physician services. For example, Foot et al. (2000) found that the need for cardiologists will increase between 2000 and 2050 by more than 100 percent, peaking around 2040; Etzioni, Liu, Maggard, & Ko (2003) predict a 14 to 47% increase in the demand for surgeons to the aging of the population. The potential shortages attributable to the aging of the population will be exacerbated by the aging of the physician workforce, which will be especially pronounced among physicians serving rural populations in Arizona.

Section V – Summary

The number of practicing physicians in Arizona increased 10% from 12,024 in 2004 to 13,215 in 2005. However, the physician per 100,000 population ratio only increased by approximately 6% (from 207 in 2004 to approximately 219 in 2005) and remains well below the national average. The supply of new physicians is affected not only by medical schools and residency training programs, but also by in-migration of physicians who were educated outside of Arizona. Only 5% (72/1,346) of new physicians licensed in Arizona in 2005 completed medical school in the state and only 14% (195/1,346) completed their residency in Arizona. Arizona residency training programs are more likely to supply physicians to urban counties than rural counties. Only 16% of Arizona physicians practicing in rural counties trained in Arizona compared to 29% of Arizona physicians practicing in urban counties. Community characteristics, spouses' preferences, and the work environment were the three most important influences on graduating residents' choice of practice location.

The physician-to-population ratio in rural counties is far less than in the urban counties. While there are family physicians in every Arizona County, two counties do not have a pediatrician and one county does not have an internal medicine specialist. Among the surgical specialties, two counties do not have any general surgeons, obstetricians, or orthopedists. Ignoring physicians practicing under federal or tribal jurisdiction, there are no medical specialists in cardiovascular medicine in five counties, no neurologists in six counties, and no gastroenterologists in seven counties. Additionally, four rural counties are at risk for losing specialists because the average age of their specialists in one or more fields is over 60 years.

The number of patients seen per week by Arizona physicians has increased from 69 in 1994 to 84 in 2005 and is similar for both men and women. However, physicians older than 65 years old see fewer patients per week than younger physicians.

We have estimated the demand for physician services in Arizona in order to determine if there is currently a shortage of physicians. While the total number of Arizona physicians was 12,024 in 2004 and 13,215 in 2005, the demand forecast predicts a demand for 14,389 and 15,060 physicians respectively for these years, increasing to approximately 40,000 physicians by 2020. Thus, the estimated shortage of physicians is approximately 2,218 physicians in 2005.

In conclusion, this study indicates that the physician workforce in Arizona needs to be increased if it is to meet the demand for care. Increasing the number of training programs and medical schools, although helpful, will not be sufficient to meet the demand.

Recommendations

In order for Arizona to have a sufficient supply of physicians in the future, ongoing monitoring of the status of the physician workforce is essential. However, there is also a need to assess the supply of other health care workers in the state since health care is provided by a team of professionals including nurses, doctors, pharmacists, medical technologists, dentists, and others. Shortages in any of these areas will affect the quality of health care for Arizona citizens. The collaborative approach used by CHIR and Arizona licensing boards can serve as a model for cost-effective, ongoing assessment of all health care professionals. By combining licensing data from the professional boards with survey data, it is possible to determine the current health care workforce supply and predict future workforce needs. In addition, this information can be used to enhance recruitment of health care workers to the state, maintain the workforce, and inform policymakers on the strategies that are most likely to be effective in enhancing and maintaining our health care workforce.

The development of incentives and policies to provide an adequate supply of physician services requires an accurate assessment of the current status of the workforce and changes over time. Our database on the physician workforce in Arizona is unique in terms of its longevity and the scope of its coverage. Despite an unfortunate gap in the data, it permits a state-specific foundation for analyzing the current status of the workforce, monitoring trends, and predicting future workforce needs. In 2005, we added administrative data on NPCs and we hope to include surveys of NPCs in the future. We hope the results of this report can be used to develop an integrated approach to increasing the availability of medical care for all Arizonans that considers the characteristics and incentives that influence physicians and other health care professionals to practice in Arizona is needed.

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Appendix A

A response rate of 60% is often cited as the criterion that a survey should meet to be representative (Babbie, 1990, but see also Krosnick, 1999). It is, for example, the criterion applied by the federal Office of Management and Budget. The 60% rule is, however, designed for surveys from samples. The data from our physician surveys is based on a census of all physicians, changing the implications of the 60% rule. If we had selected a sample of physicians, it would have likely not been larger than 25% of all physicians (approximately 3,000) because of the costs of interviewing. The combination of survey questions with licensing forms permits the inclusion of all physicians. A 60% response for a 25% sample of physicians would yield a final survey data set of approximately 15% of the physicians in Arizona. A 60% response rate of the census of physicians yields 60% of the physicians in Arizona. Response rates of less than 60% would be more than adequate for the survey results reported here. In fact, response rates are substantially higher than 60% with the exception of the graduating residents, eliminating potential concerns that our results might not be representative.

The response rate for the graduating residents is approximately 39% of the total number of graduating residents. The response rate for the Practicing Physician Survey is summarized in Appendix Table 1:

Appendix Table 1. Survey Response Rates, 2003 – 2005.

Year Administered	*Survey*	*Allopathic Physicians Receiving Survey*	*Osteopathic Physicians Receiving Survey*	*Total Surveys Distributed*	*Surveys Returned*	*Response Rate*
2003	PPS	8,623	Not Distributed	8,623[1]	8,237	96%
2004	PPS	8,375	1,832	10,207	8,351	82%
2005	PPS	9,470	1,812	11,282	8,480	75%
2005	GRS	N/A	N/A	366[2]	144	39%
2005	NPS	1,308	N/A	1,308[3]	808	62%

[1] Allopathic physicians who renew their licenses in odd years receive the PPS in 2003 and 2005; those renewing in even years received the survey in 2004 (the allopathic physician's birth year determines whether they renew in odd or even years.)

[2] Physicians in their final year of every ACGME-approved residency program in Arizona received a GRS, but whether they were allopathic medical school graduates or osteopathic medical school graduates was not tracked, so only the total number of surveys distributed is provided.

[3] The NPS was only distributed to allopathic physicians in 2005; it is now distributed to new allopathic and osteopathic physicians.

Appendix B

Appendix Table 2. Age Group (as of March 15, 2006) Distributions by County for Selected Specialties (Specialty listed as either Specialty 1 or Specialty 2)

Specialty	Age Group	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Anesthesiology	<41	1	2	6					109	2		40			1	
	41 – 50		2	8					235	12	2	79	1		5	6
	51 – 55			6	1				84	6	2	28	3		2	6
	56 – 60		2	1					47		1	18			2	4
	61 – 65		1						40	1		15			2	1
	66 – 70		1	1	1				27			7			2	
	>70			1					29			8		1		
Cardiovascular Diseases	<41				1				39	2		12	3			
	41 – 50		1	2					72	2	2	23	3		3	3
	51 – 55			1					37	1		11	2		4	
	56 – 60		1	1	2				37	3	1	16	3		1	3
	61 – 65			1					22	2		9			1	1
	66 – 70								15			3			2	1
	>70			1					14	1		12				
Emergency Medicine	<41		3	5	1				137	3		54	3		10	3
	41 – 50		1	14	3	1	1		136	8	4	45			5	4
	51 – 55	2	1	4	1	1	1		76	2	2	29	3	2		5
	56 – 60		1	5	2			1	54	1	2	27	1	1	5	2
	61 – 65		1	3	1	1			15			12	1	1	1	1
	66 – 70								4		1	6		1		
	>70		1						6	1		2	1		1	
Family Practice	<41	4	6	9	3	8		1	389	9	15	63	16	1	11	13
	41 – 50	9	9	32	9	8	2	1	338	14	20	130	19	4	18	8
	51 – 55	3	6	13	3	3	1	2	185	9	6	73	5	5	14	8
	56 – 60	3	6	11	2	2	1	1	142	7	7	36	8		13	1
	61 – 65	3	5	8	2	4	1	2	83	4	4	25	7		9	1
	66 – 70		3	3	3		1		68	1	1	20	6		2	
	>70		4	7	4	4	2	3	183	5	4	30	6		12	6
Gastroenterology	<41			1					24	1		8			2	1

Specialty	Age Group	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
	41 – 50	1		1					43	3		17	1		1	2
	51 – 55		1	2					14			4			2	
	56 – 60				1				23			5			1	1
	61 – 65								16			7			1	
	66 – 70								9			3				
	>70								7			1			1	
General Surgery	<41		2	2	1				91	2		25			1	1
	41 – 50	1	2	5	3	1		1	97	4	2	38	2		6	5
	51 – 55		2	1					50	3	1	10			4	2
	56 – 60			1	1				44	2	3	7	2		1	2
	61 – 65		3	2	1				26			8	2	1	3	
	66 – 70			1					41	1	1	10				
	>70		1	1				1	49	1		21	2	1	3	2
Internal Medicine	<41	2	8	4	3	1		1	598	19	2	152	18	2	7	21
	41 – 50	2	8	14	4	1		1	621	26	9	202	15	2	21	20
	51 - 55		6	12	4	1			228	6	2	93	5		16	6
	56 – 60	1	7	8	3	1		1	199	5	4	93	9	1	10	6
	61 – 65	1		3					108	4		48	2		6	6
	66 – 70				1				66	1		32			4	3
	>70		2	2				1	88	1	1	39			2	1
Neurology	<41								43	1		7			2	
	41 – 50			2					51	4		20	2		1	4
	51 – 55			2					24	2		6				
	56 – 60		1	1					19	1		9				1
	61 – 65		1						17			5				
	66 – 70								3			2				
	>70		1	1					5			3	1		1	
Neurosurgery	<41			2					14			2				
	41 – 50								15			7				
	51 – 55			1					5			3				

Specialty	Age Group	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
	56 – 60								4			1				
	61 – 65								6			2				
	66 – 70								3			4				
	>70								6			1				
Obstetrics	<41	1		3	1				130	5	1	28		3	4	2
	41 – 50	1	1	8	2				123	6	1	39	3	2	5	3
	51 – 55	1	4	7	1	1			60	4	2	20	4		2	2
	56 – 60		3	2		1			45	2	4	15	2		3	2
	61 – 65	1							44			8				1
	66 – 70	1		1	1	1			29	2		12	1		1	1
	>70			2					44			13			2	1
Orthopedics	<41		1	4	1	1			62	2		21			3	2
	41 – 50		2	4					93	4	4	31	1		1	4
	51 – 55			2	2				28	2		11	2		2	2
	56 – 60			2					28	1	1	11			3	1
	61 – 65		1	2	1				34	1		11			1	2
	66 – 70			1					29			5		1	2	
	>70								28			7			1	1
Pathology	<41		1						20			10				
	41 – 50			4					60	1		22	2		1	2
	51 – 55		2	1					27	2		12			4	
	56 – 60			1					27	2		9				
	61 – 65								16			9			2	2
	66 – 70		1	1					17			6			1	
	>70		1						15	3		9			1	
Pediatrics	<41		2	5					224	3	2	58	3	4	7	4
	41 – 50	2		15	2	1			208	3	1	87	1	3	6	6
	51 – 55		1	3	1				99	1	3	35	1		2	3
	56 – 60		2	2					71	2		21			2	5

	61 – 65		1	2			51	2	1	17	4	2	4
	66 – 70		1	1	1	1	38			15		1	
	>70			3			41		1	15	1		
Psychiatry	<41			4			68	1		35	4	3	1
	41 – 50		4	10			128	2	1	42	2	6	3
	51 – 55		2	5	1		56	2	1	29	2	5	1
	56 – 60		1	4			45	1		31		2	2
	61 – 65			2			38	2	1	17	1	4	1
	66 – 70		1				35	1		14		1	1
	>70	1		2			55			23	1	4	1
Radiology	<41			2			120			33	1	3	
	41 – 50		2	3	1		115		1	37		4	1
	51 – 55			5	1		57		3	17	2	2	
	56 – 60		3	1	2		44		1	11		4	1
	61 – 65			1	1	1	52		2	21		5	
	66 – 70	1		3			30		1	12		3	
	>70			2	1		25			8		5	1

Appendix C

The specialties of Arizona MD and DO physicians were organized as follows for this report:

Primary Care

Specialty Name	*Common Abbreviation(s)*
Adolescent Medicine	ADL
Family Practice, Family Medicine	FP, FM
General Practice	GP
General/Preventive Medicine	GPM
Geriatric Medicine, Geriatrics, Gerontology	GER, FPG, IMG
Internal Medicine	IM
Osteopathic Manipulative Medicine	OM, OMT
Pediatric and Adolescent Medicine	PDA
Pediatrics, Pediatric Medicine	PD
Internal Medicine/Pediatrics	

Medical Specialties

Specialty Name	*Common Abbreviation(s)*
Allergy, Allergy & Immunology, Immunology	A, AI, IG
Cardiology, Cardiovascular Diseases, Interventional Cardiology, Clinical Cardiac Electrophysiology	CD, IC, ICE
Dermatology	D
Endocrinology	END, DIA
Gastroenterology	GE
Hematology, Hematology/Oncology	HEM, HO
Infectious Diseases	ID
Nephrology	NEP
Neurology	N, CN
Oncology, Medical Oncology	ON, MO, OMO
Psychiatry, Psychoanalysis, Geriatric Psychiatry, Forensic Psychiatry	P, PSY
Pulmonology, Pulmonary Diseases	PUD
Rheumatology	RHU

Pediatric Subspecialties

Specialty	*Common Abbreviation(s)*
Child Neurology	
Child Psychiatry, Child and Adolescent Psychiatry	
Developmental/Behavioral Pediatrics	DBP, NDP
Neonatology	NPM
Pediatric Allergy	
Pediatric Cardiology	PDC
Pediatric Dermatology	
Pediatric Endocrinology	PDE
Pediatric Gastroenterology	PDG, PG
Pediatric Hematology, Pediatric Hematology/Oncology	PHO
Pediatric Infectious Diseases	PDI
Pediatric Nephrology	PNP, PN
Pediatric Ophthalmology	PO
Pediatric Ophthalmology, Internal Pediatric Opthalmology	
Pediatric Otolaryngology	PDO
Pediatric Pulmonary Disease, Pediatric Pulmonology	PDP
Sports Medicine (Pediatrics)	SP

Hospital Specialties

Specialty	*Common Abbreviation(s)*
Anesthesiology	AN
Blood Banking/Transfusion Medicine	BBK
Chemical Pathology	PCH
Clinical & Laboratory Dermatological Immunology	DDL
Critical Care Medicine, Critical Care Medicine (Internal Medicine), Critical Care Medicine (Anesthesiology), Critical Care Medicine (Surgery), Pulmonary Critical Care Medicine	CCM, CCA, CCS, PCC
Cytopathology	PCP
Dermatopathology	DMP
Diagnostic Laboratory Immunology	DLI
Diagnostic Radiology, Radiology, Therapeutic Radiology, Musculoskeletal Radiology, Neuro-Radiology	DR, R, PR, TR, AR, NBN
Emergency Medicine, Pediatric Emergency Medicine	EM, PEM, PE
Hematology (Pathology)	HMP
Hospitalist	HOS
Immunopathology	IP
Medical Toxicology	TOX
Neuropathology	NP
Nuclear Cardiology	
Nuclear Medicine	NM
Nuclear Radiology	RNR
Pain Medicine, Pain Management (Anesthesiology)	PM, APM
Pathology, Anatomic Pathology, Anatomic and Clinical Pathology, Clinical Pathology	P, PTH, ATP, ACP, CP, CLP
Pathology, Blood Banking	BLB
Pathology, Chemical	CMP
Pathology, Forensic	FOP
Pediatric Anesthesiology	PAN
Pediatric Critical Care Medicine	PCC
Pediatric Pathology	PP
Pediatric Radiology	
Radiation Oncology	RO
Therapeutic Radiology	
Vascular and Interventional Radiology, Interventional Radiology	VIR

Surgical Specialties

Specialty	*Common Abbreviation(s)*
Abdominal Surgery	ABS
Cardiovascular Surgery, Cardiovascular Surgery, Cardiothoracic Surgery	CDS,CTS, CVS
Colorectal Surgery, Colon and Rectal Surgery	CRS
Cosmetic Surgery	
Dermatologic Surgery	DS
General Surgery, Surgery	GS, BE
Hand Surgery	HS
Maxillofacial Surgery	MFS, CFS
Neurosurgery, Neurological Surgery	NS
Obstetrics	OBS, OBG
Ophthalmology	OPH
Orthopedic Surgery, Sports Medicine (Orthopedic Surgery), Artificial Joint Surgery	ORS, OSM
Otolaryngology, Otology, Pediatric Otolaryngology, Head and Neck Surgery	OTO, OT, OFS, PDO, HNS, NO
Pediatric Neurological Surgery, Pediatric Neurosurery	NSP
Pediatric Orthopedics	OP
Pediatric Surgery	PDS
Pediatric Urology	UP
Plastic Surgery, Facial Plastic Surgery, Facial Reconstructive Surgery	PS, PSH, FRS
Proctology	PRO
Spine Surgery, Orthopedic Surgery of the Spine	OSS
Surgical Assisting	
Surgical Oncology	SO
Thoracic Surgery	TS
Transplant Surgery	TTS
Trauma Surgery, Orthopedic Trauma Surgery	OTR
Urology	U
Vascular Surgery	VS
Vitreo-Retinal Surgery	

Appendix D

Appendix Table 3. Number of Physicians Listing Specialty 1 or Specialty 2 by Specialty Group

Specialty Group	Number of Physicians with a Specialty From This Group Listed As Specialty 1	Number of Physicians with a Specialty From This Group Listed As Specialty 2
Primary Care	6,139	1,436
Medical Subspecialties	1,558	898
Surgical Specialties	2,127	610
Pediatric Subspecialties	154	113
Hospital Specialties	2,498	891
Other/Unknown	739	631 (Other Only)
Total Physicians	13,215	4,579

Appendix Table 4. Physician Specialty by County of Practice (Listed as primary specialty/Listed as primary or secondary specialty)

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Anesthesiology															
primary specialty	1	9	18	1				460	19	3	173	3		12	15
primary or secondary specialty	1	10	19	1				591	22	4	209	4		14	19
Cardiovascular Disease															
primary specialty		1	0	0				27	0	1	10	1		0	0
primary or secondary specialty		1	6	3				207	8	4	76	7		10	7
Emergency Medicine															
primary specialty	0	7	19	6	0	0	1	309	19	4	133	6	2	14	8
primary or secondary specialty	3	8	29	10	3	2	1	411	20	10	179	11	4	24	16
Family Practice*															
primary specialty	17	34	60	24	29	3	11	1238	39	49	306	60	11	72	36
primary or secondary specialty	19	40	83	26	30	7	12	1444	51	59	373	74	13	82	40
Gastroenterology															
primary specialty	0	0	0	1				9	0		5	0		0	0
primary or secondary specialty	1	1	4	1				134	3		44	1		6	4
General Surgery															
primary specialty		10	10	3	1		2	246	12	5	65	4	3	13	6
primary or secondary specialty		10	11	6	1		2	400	13	5	115	7	3	18	11
Internal Medicine															
primary specialty	6	23	39	11	3		3	1555	47	18	500	31	5	55	56
primary or secondary specialty	7	29	44	15	3		4	2004	67	21	668	44	6	72	71

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Neurology															
primary specialty		3	3					149	7	1	45	0		5	4
primary or secondary specialty		3	6					173	8	1	54	1		5	6
Neurosurgery															
primary specialty			3					50	1		19				
primary or secondary specialty			3					56	1		20				
Obstetrics†															
primary specialty	4	7	20	5	2			445	19	8	128	9	4	21	11
primary or secondary specialty	4	8	21	6	3			474	19	9	133	10	4	21	11
Orthopedics**															
primary specialty		4	12	3	2			274	4	3	98	1		11	9
primary or secondary specialty		4	16	4	2			385	6	6	130	1		16	13
Pathology††															
primary specialty		5	3					137	7	1	54	2		8	4
primary or secondary specialty		7	4					172	9	1	66	2		9	5
General Pediatrics***															
primary specialty	4	8	28	5	2			655	13	7	198	15	6	22	22
primary or secondary specialty	4	8	34	5	2			788	13	8	246	16	6	23	23
Psychiatry†††															
primary specialty		8	22	2		1		392	8	2	164	11		22	7
primary or secondary specialty		10	31	2		1		509	9	3	226	11		26	2
Diagnostic Radiology															
primary specialty	0	4	15	5			1	346	8	3	111	3		27	4
primary or secondary specialty	1	6	16	6			1	462	11	5	161	3		33	4
Total Physicians in County	37	147	335	81	40	7	21	8501	268	122	2798	184	35	363	242

Source: AMB and AOB, 2005.

*Family Practice includes Family Medicine, Family Practice, and General Practice

†Includes Obstetrics and Obstetrics/Gynecology

**Includes Hand Surgery, Spine Survey, and Orthopedic Trauma Surgery

††Includes Anatomic, Clinical, and Forensic Pathology

***Includes Internal Medicine/Pediatrics

†††Includes Child Psychiatry, and Forensic Psychiatry

Appendix E

Appendix Table 5. Mean Number of Patient Visits Per Week for Primary Care Physicians 1994 – 2005

	1994	1995	1996	2003	2004	2005
Practice Type						
Solo Practice	88.1	95.6	94.0	98.2	99.0	96.8
Group Practice	93.9	98.7	96.0	108.4	104.9	104.9
Hospital Staff	64.7	70.5	70.0	101.1	104.6	100.2
Managed Care	86.0	93.2	95.0	N/A	N/A	N/A
Residency/Fellowship	60.0	58.0	50.0	48.7	54	53.0
Public	87.3	93.9	68.0	80.2	75.3	80.3
Freestanding Public Health Clinic	96.2	N/A	N/A	93.3	105.8	89.0
Other	N/A	78.0	86.0	N/A	N/A	N/A
Academic	N/A	N/A	N/A	62.4	65.5	69.8
Position						
Salaried	83.4	83.7	N/A	87.5	87.2	88.2
Self-Employed	85.2	N/A	N/A	105.7	106.2	102.6
Employee	N/A	N/A	N/A	91.8	90.3	91.2
Solo Practice	N/A	95.4	85.0	N/A	N/A	N/A
Partner	N/A	111.5	93.0	N/A	N/A	N/A
Other	N/A	71.2	99.0	N/A	N/A	N/A
Production Based	N/A	N/A	N/A	105.9	105.5	101.6
Salary + Incentive	N/A	N/A	N/A	105.5	103.7	103.3
Gender						
Male	87.0	92.7	N/A	103.1	102.2	101.3
Female	82.3	86.5	N/A	89.3	90.0	89.4
Age Group						
35 and Under	82.7	89.1	81.0	95.5	94.8	86.2
36 – 45	88.9	96.3	91.0	105.3	101.9	101.7
46 – 55	91.8	93.2	94.0	98.5	99.2	101.7
56 – 65	85.6	91.8	92.0	98.7	98.3	96.6
Over 65	60.4	69.6	66.0	70.6	81.3	73.0
Practice Location						
Urban	85.5	90.7	87.0	98.1	97.9	96.9
Rural	87.7	94.2	94.0	101.4	100.6	98.7

Appendix Table 6. Mean Number of Patient Visits Per Week for Medical Subspecialist Physicians 1994 – 2005

	1994	1995	1996	2003	2004	2005
Practice Type						
Solo Practice	72.2	83.2	82.0	95.4	99.2	76.0
Group Practice	59.9	74.4	83.0	101.8	109.1	96.3
Hospital Staff	51.5	85.8	52.0	141.3	126.7	54.5
Managed Care	78.0	71.0	69.0	N/A	N/A	N/A
Residency/Fellowship	35.0	88.8	45.0	75.0	74.7	46.7
Public	35.0	10.0	63.0	66.5	73.2	56.3
Freestanding Public Health Clinic	100.0	N/A	N/A	48.0	75.3	63.7
Other	N/A	49.6	74.0	N/A	N/A	N/A
Academic	N/A	N/A	N/A	53.7	57.4	52.7
Position						
Salaried	59.2	63.3	N/A	77.1	76.6	60.6
Self-Employed	73.0	N/A	N/A	102.6	108.1	84.5
Employee	N/A	N/A	N/A	80.1	86.8	67.2
Solo Practice	N/A	82.1	68.0	N/A	N/A	N/A
Partner	N/A	80.3	85.0	N/A	N/A	N/A
Other	N/A	52.8	88.0	N/A	N/A	N/A
Production Based	N/A	N/A	N/A	103.8	112.9	87.4
Salary + Incentive	N/A	N/A	N/A	97.4	97.9	94.8
Gender						
Male	70.5	73.5	N/A	91.2	98.9	76.4
Female	64.2	69.8	N/A	101.9	89.7	71.6
Age Group						
35 and Under	54.9	58.1	58.0	99.9	114.6	84.0
36 – 45	70.2	73.1	73.0	94.5	93.8	81.4
46 – 55	79.2	75.2	86.0	99.7	107.9	78.2
56 – 65	67.0	84.1	73.0	87.4	96.4	77.8
Over 65	40.5	51.8	36.0	63.5	52.6	48.1
Practice Location						
Urban	69.3	72.8	75.0	92.4	97.4	75.9
Rural	75.9	76.2	76.0	96.2	99.8	76.0

Appendix Table 7. Mean Number of Patient Visits Per Week for Pediatric Subspecialty Physicians 1994 – 2005

	1994	1995	1996	2003	2004	2005
Practice Type						
Solo Practice	31.7	40.0	31.0	64.9	52.4	67.6
Group Practice	55.5	47.8	56.0	77.3	77.5	82.3
Hospital Staff	26.6	41.5	47.0	35.0	N/A	60.0
Managed Care	N/A	20.00	25.0	N/A	N/A	N/A
Residency/Fellowship	N/A	N/A	35.0	N/A	N/A	62.5
Public	N/A	N/A	N/A	N/A	N/A	N/A
Freestanding Public Health Clinic	N/A	N/A	N/A	N/A	N/A	N/A
Other	N/A	30.3	N/A	N/A	N/A	N/A
Academic	N/A	N/A	N/A	62.3	46.5	55.1
Position						
Salaried	26.4	34.6	N/A	71.5	63.9	54.8
Self-Employed	59.0	N/A	N/A	73.3	78.3	90.8
Employee	N/A	N/A	N/A	70.5	59.8	55.7
Solo Practice	N/A	30.0	45.0	N/A	N/A	N/A
Partner	N/A	51.4	42.0	N/A	N/A	N/A
Other	N/A	75.0	N/A	N/A	N/A	N/A
Production Based	N/A	N/A	N/A	69.4	78.4	79.6
Salary + Incentive	N/A	N/A	N/A	71.2	60.0	55.6
Gender						
Male	41.1	41.9	N/A	77.2	66.5	76.5
Female	32.2	40.6	N/A	51.4	62.5	49.8
Age Group						
35 and Under	30.0	41.3	59.0	35.0	N/A	101.7
36 – 45	40.2	41.6	45.0	56.1	87.5	66.9
46 – 55	40.8	43.2	48.0	82.0	57.3	55.4
56 – 65	37.5	43.0	41.0	68.3	76.7	89.4
Over 65	N/A	15.0		40.0	40.0	59.7
Practice Location						
Urban	40.4	42.2	45.0	70.9	65.1	69.8
Rural			N/A	77.5	75.0	

Appendix Table 8. Mean Number of Patient Visits Per Week for Hospital Subspecialty Physicians 1994 – 2005

	1994	1995	1996	2003	2004	2005
Practice Type						
Solo Practice	44.1	38.6	41.0	52.5	50.1	47.2
Group Practice	117.0	104.0	67.0	84.6	89.6	88.2
Hospital Staff	87.6	89.1	77.0	102.0	91.8	95.3
Managed Care	78.0	132.0	116.0	N/A	N/A	N/A
Residency/Fellowship	35.0	51.0	59.0	27.0	95.7	51.3
Public		30.0	86.0	53.7	52.1	43.6
Freestanding Public Health Clinic	19.7	N/A	N/A	70.0	120.0	120.0
Other	N/A	69.2	59.0	N/A	N/A	N/A
Academic	N/A	N/A	N/A	119.9	74.9	116.3
Position						
Salaried	124.1	87.9	N/A	109.6	115.6	107.2
Self-Employed	58.4	N/A	N/A	69.3	69.6	70.5
Employee	N/A	N/A	N/A	92.8	92.3	91.824
Solo Practice	N/A	46.5	76.0	N/A	N/A	N/A
Partner	N/A	101.5	59.0	N/A	N/A	N/A
Other	N/A	70.9	93.0	N/A	N/A	N/A
Production Based	N/A	N/A	N/A	60.4	60.8	64.2
Salary + Incentive	N/A	N/A	N/A	97.8	94.1	92.4
Gender						
Male	80.0	84.6	N/A	79.6	87.7	81.6
Female	91.0	87.4	N/A	97.9	82.4	91.5
Age Group						
35 and Under	72.0	69.7	53.0	79.7	82.6	54.5
36 – 45	78.2	84.9	59.0	77.8	78.7	84.6
46 – 55	94.6	92.0	81.0	74.1	81.3	78.8
56 – 65	79.4	92.6	94.0	114.0	91.1	99.9
Over 65	79.4	72.8	72.0	103.5	109.2	109.4
Practice Location						
Urban	79.2	86.3	67.0	82.9	82.3	81.2
Rural	99.6	75.3	71.0	81.9	87.0	95.8

Appendix Table 9. Mean Number of Patient Visits Per Week for Surgical Subspecialty Physicians 1994 – 2005

	1994	1995	1996	2003	2004	2005
Practice Type						
Solo Practice	71.7	69.6	72.0	74.8	78.3	74.2
Group Practice	77.2	83.9	85.0	96.5	98.0	96.2
Hospital Staff	48.4	48.1	71.0	74.4	116.0	116.0
Managed Care	72.3	76.9	80.0	N/A	N/A	N/A
Residency/Fellowship	53.0	65.6	65.0	65.3	63.2	91.1
Public	75.0		59.0	67.8	63.5	60.3
Freestanding Public Health Clinic	80.7	N/A	N/A	59.5	59.5	59.5
Other	N/A	69.0	79.0	N/A	N/A	N/A
Academic	N/A	N/A	N/A	74.2	60.0	64.2
Position						
Salaried	68.7	71.5	N/A	74.4	77.7	75.4
Self-Employed	60.5	N/A	N/A	82.7	85.8	82.5
Employee	N/A	N/A	N/A	85.5	87.7	83.1
Solo Practice	N/A	68.1	77.0	N/A	N/A	N/A
Partner	N/A	89.2	77.0	N/A	N/A	N/A
Other	N/A	55.2	79.0	N/A	N/A	N/A
Production Based	N/A	N/A	N/A	84.4	86.8	85.0
Salary + Incentive	N/A	N/A	N/A	95.4	98.0	87.2
Gender						
Male	73.2	74.6	N/A	84.6	87.8	83.2
Female	69.4	74.3	N/A	80.8	81.5	82.3
Age Group						
35 and Under	59.2	70.8	72.0	82.9	89.6	80.8
36 – 45	80.4	81.2	83.0	87.8	85.2	84.9
46 – 55	82.0	80.6	82.0	90.8	95.4	92.3
56 – 65	62.4	65.5	72.0	78.0	85.7	81.6
Over 65	46.4	48.4	43.0	46.7	54.4	52.5
Practice Location						
Urban	66.9	74.2	76.0	83.5	86.9	81.7
Rural	73.5	77.9	82.0	84.6	83.9	89.1

Appendix F

Appendix Table 10. Medical Workforce Location by County

County	*MD*	*%MD*	*DO*	*%DO*	*NP*	*%NP*	*PA*	*%PA*	*Total Providers*	*% Non-Physician*
Apache	27	36%	10	13%	18	24%	21	28%	76	51%
Cochise	117	56%	30	14%	43	21%	18	9%	208	29%
Coconino	313	65%	22	5%	98	21%	45	9%	478	30%
Gila	67	58%	14	12%	15	13%	19	17%	115	30%
Graham	27	44%	13	21%	7	11%	15	24%	62	35%
Greenlee	6	43%	1	7%	0	0%	7	50%	14	50%
La Paz	13	45%	8	28%	5	17%	3	10%	29	28%
Maricopa	7,435	70%	1,066	10%	1,381	13%	773	7%	10,655	20%
Mohave	211	58%	57	16%	38	11%	55	15%	361	26%
Navajo	95	54%	27	15%	36	20%	19	11%	177	31%
Pima	2,565	75%	233	7%	490	14%	136	4%	3,424	18%
Pinal	153	55%	31	11%	47	17%	45	16%	276	33%
Santa Cruz	32	62%	3	6%	13	25%	4	8%	52	33%
Yavapai	308	66%	55	12%	75	16%	31	7%	469	23%
Yuma	220	69%	22	7%	38	12%	41	13%	321	25%
Rural	1,589	14%	293	18%	433	19%	323	26%	2,638	16%
Urban	10,000	86%	1,299	82%	1,871	81%	909	74%	14,079	84%
Total	11,589	69%	1,592	10%	2,304	14%	1,232	7%	16,717	21%
Out-of-State					523		497			

Source: AMB, AOB, and AZBN data, 2005

Appendix G

The report, *Arizona Physicians Today and Tomorrow* (Flinn Foundation, 1989) used a method by which Arizona population estimates were multiplied by the physician-to-population requirements for the United States as estimated by the Health Resources and Services Commission's Graduate Medical Education National Advisory Council (GMENAC) and its Bureau of Health Professions (BHP). That methodology is reproduced here, with more recent population estimates.

Appendix Table 11. Population Figures Used to Test Physician Workforce Estimates

	2000 Actual Census	*2005 Est.*	*2010 Projected*
Arizona	5,130,632	6,044,985	6,999,810
Maricopa County	3,072,149	3,648,545	4,217,427
Pima County	843,746	957,635	1,070,723
Total Urban Population	3,915,895	4,606,180	5,288,150

Source: Arizona Department of Economic Security, Population Statistics Unit, 2006

Appendix Table 12. BHP and GMENAC Physician Workforce Requirements

Source	*Requirement for Physicians/ 100,000 Urban Population*	*Resulting 2000 Estimate*	*Resulting 2005 Estimate*	*Resulting 2010 Projections*
BHPr	230.9	9,042	10,636	12,210
GMENAC	194.6	7,620	8,964	10,291

Source: Commission on Medical Manpower, *Arizona Physicians Today and Tomorrow*. The Flinn Foundation. Phoenix, AZ. 1989, pp. 37 - 43. These numbers are then multiplied by the population numbers in Appendix Table 11.

Appendix H

Appendix Table 13. Actual Arizona Physicians and Projections, 1994 - 2020

Year	Active AZ MDs	Active AZ DOs	Total Arizona Physicians	Moving Average Projection	Linear Forecast MD's	AZ Population (Millions)	Actual Physicians Per Capita	Moving Avg Forecast Ratio	Linear Projection Ratio
1994	7,193	833	8,026	7,193	7,233	4.2	191		172
1995	7,814		7,814	7,814	7,547	4.4	178		172
1996	8,047		8,047	8,047	7,862	4.6	175		171
1997	8,421		8,421	8,421	8,177	4.7	179		174
1998				8,491	8,491	4.9			173
1999	8,428		8,428	8,428	8,806	5.0	169	169	176
2000				9,120	9,120	5.1		179	179
2001				9,435	9,435	5.3		178	178
2002	8,976		8,976	8,976	9,750	5.4	166	166	181
2003	9,228		9,228	9,228	10,064	5.6	165	165	180
2004	10,787	1,237	12,024	10,787	10,379	5.8	207	186	179
2005	11,616	1,599	13,215	11,616	10,693	6.1	217	190	175
2006				10,008	11,008	6.2		160	176
2007				10,123	11,323	6.4		157	176
2008				10,352	11,637	6.6		156	176
2009				10,577	11,952	6.8		155	175
2010				10,535	12,266	7.0		151	175
2011				10,319	12,581	7.2		144	175
2012				10,382	12,896	7.4		141	175
2013				10,433	13,210	7.6		138	175
2014				10,449	13,525	7.7		135	175
2015				10,424	13,839	7.9		132	175
2016				10,401	14,154	8.1		129	175
2017				10,418	14,469	8.3		126	175
2018				10,425	14,783	8.4		124	175
2019				10,424	15,098	8.6		121	175
2020				10,418	15,412	8.8		119	176

Increase in Linear Trend Projection is 8,219 (114%) in 24 years, for a compounded annual rate of increase of 8.92%

Increase in 5-Year Moving Average Projection is 3,225 (45%) in 27 years, for a compounded annual rate of increase of 5.45%

Appendix Table 12. Actual Arizona Physicians and Projections according to Cooper Model, 1994 - 2020

Year	Gross State Product*	Active AZ MDs**	Active AZ DOs	Total Active AZ Docs*****	AZ Population ***	Per Capita GSP	Phys Per Capita****	GSP Per Capita Growth	Cooper Demand For Physician Services	% Change	#Docs Needed	Shortfall
1990	81,143.0	6,617	698	7,315	3.7	21,931	198					
1991	81,771.0											
1992	88,059.0	6,923	758	7,681	3.9	22,579	197					
1993	91,709.0			7,900	4.0	22,927		1.54%		1.16%		
1994	100,206.0	7,193	833	8,026	4.2	23,859	191	4.06%	197	3.05%	8271	245
1995	107,538.0	7,814		7,814	4.4	24,440	178	2.44%	201	1.83%	8823	1,009
1996	116,083.0	8,047		8,047	4.6	25,235	175	3.25%	205	2.44%	9449	1,402
1997	127,439.0	8,421		8,421	4.7	27,115	179	7.45%	217	5.59%	10194	1,773
1998	138,173.0				4.9	28,199		4.00%	223	3.00%	10946	
1999	149,036.0	8,428		8,428	5.0	29,807	169	5.70%	233	4.28%	11647	3,219
2000	157,639.0				5.1	30,910		3.70%	239	2.77%	12210	
2001	162,407.0				5.3	30,643		-0.86%	238	-0.65%	12606	
2002	167,980.0	8,976		8,976	5.4	31,107	166	1.52%	241	1.14%	12990	4,014
2003	175,536.0	9,228		9,228	5.6	31,346	165	0.77%	242	0.57%	13549	4,321
2004	187,953.0	10,787	1,237	12,024	5.8	32,406	207	3.38%	248	2.54%	14389	2,365
2005	205,671.9	11,616	1,599	13,215	6.1	33,717	217	4.05%	256	3.03%	15592	2,377
2006	225,082.5				6.2	36,074		6.99%	269	5.24%	16785	
2007	238,972.5				6.4	37,154		2.99%	275	2.24%	17691	
2008	253,335.3				6.6	38,251		2.95%	281	2.22%	18620	
2009	272,241.7				6.8	39,964		4.48%	291	3.36%	19795	
2010	294,043.5				7.0	42,007		5.11%	302	3.83%	21120	
2015	430,160.5				7.9	54,343		29.37%	368	22.02%	29144	
2020	632,614.3				8.8	72,055		32.59%	458	24.44%	40226	

**Sources include HDRG, HRSA (1998) and the Goldwater Institute (2000)

***Millions

****Per 100,000 Population

*****Estimated for 1993 and 1995 - 2000, 2002 and 2003

Appendix I: Survey Instruments

Note:

Graduating Resident Survey	2004 – 2005
New Physician Survey	2004 – 2005
Practicing Physician Survey	2003 – 2005

(1)☐ M.D. (0)☐ D.O. (1)☐ Female (0)☐ Male

Residency Program_____

1) Year of Residency(2005-2006) Post Graduate Year(check one) 1☐ 2☐ 3☐ 4☐ 5☐ 6+☐ Fellow☐

2) Current Specialty (check all that apply)

(1)☐Anesthesiology (AN)
(2)☐Emergency Medicine (EM)
(3)☐Family Practice (FP)
(4)☐Internal Medicine (IM)
(5)☐Psychiatry (P)
(6)☐ Psychiatry/Internal Medicine (P/IM)
(7)☐Pediatrics/Internal Medicine (PED/IM)
(8)☐Pathology (PTH)
(9)☐General Pediatrics (PD)
(10)☐General Surgery (GS)
(11)☐ Orthopedic Surgery (ORS)
(12)☐ OB/GYN (OBS/GYN)
(13)☐ Transitional
(14)☐ Other: (Enter specialty codes from page 5)
(1)_____ (2)_____

3) What is the nature of your new practice or activity?

(1)☐Solo Practice
(2)☐Single Specialty Group Practice
(3)☐Multi Specialty Group Practice
(4)☐Hospital Based Practice
(5)☐Public Health
(6)☐HMO
(7)☐University
(8)☐Safety Net Clinic/Health Center
(9)☐IHS
(10)☐Further Training (name):_____
(11)☐Other (name):_____

4) Will you be providing mainly primary care or specialty care in your new activity? (1)☐Primary (2)☐Specialty

5) If you actively sought a position, how many were you offered? _____

6) What source of information is (was) most important in searching for a job? (*Please check only one box.*)

(1)☐Through a search firm

(2)☐ Personal contact during medical school

(3)☐ Through professional meetings

(4)☐Through a classified ad in a medical journal

(5) ☐Word of mouth

(6)☐Other

7) Please rank the importance of each of the following influences by circling one of the rankings.

INFLUENCES ON YOUR CHOICE OF NEW PRACTICE OR ACTIVITY

	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	NOT VERY IMPORTANT	DOES NOT APPLY
1)Child care arrangements	5	4	3	2	1	9
2)Influence of residency mentor	5	4	3	2	1	9
3)Family/friends in community	5	4	3	2	1	9
4)Financial help for establishing a practice	5	4	3	2	1	9
5)Professional contacts	5	4	3	2	1	9
6)Financial compensation	5	4	3	2	1	9
7)Characteristics of the community	5	4	3	2	1	9
8)Work environment	5	4	3	2	1	9
9)Chance to serve an underserved group	5	4	3	2	1	9
10)Recruited by colleagues	5	4	3	2	1	9
11)Quality of hospital facilities	5	4	3	2	1	9
12)Spouse's work opportunities	5	4	3	2	1	9
13)Spouse's preference for places to live	5	4	3	2	1	9
14)No move required	5	4	3	2	1	9
15)Took rotation in the community	5	4	3	2	1	9
16)Educational debt	5	4	3	2	1	9
17)Night call arrangements	5	4	3	2	1	9
18)Quality of schools	5	4	3	2	1	9
19)No other alternative	5	4	3	2	1	9
20)Salaried position	5	4	3	2	1	9
21)Part-time position	5	4	3	2	1	9
22)Flexible scheduling	5	4	3	2	1	9
23)Good benefits	5	4	3	2	1	9
24)Any other important factors (describe):						

8) Which of the influences checked in question 7 was the most important? (enter the number that corresponds to your choice)_____ (1 – 24)

9) What are your expected earnings in your first year in this position? $_____

10) What city and state do you intend to practice in?

a) The name of the community is:_____. The state or province is:_____.

11) *During medical school,* did you have one or more clinical training experiences in a rural or underserved urban site?

NO: (0)☐ (go to 12)

Yes: (1)☐rural (2)☐underserved

a) Was the experience (1)☐voluntary? (2)☐required?

b) Did this influence your choice of medical specialty? **NO:** (0)☐ **Yes:** (1)☐

12) *During residency training,* did you have one or more clinical training experiences in a rural or underserved urban site?

NO: (0)☐ (go to 13)

Yes: (1)☐rural (2)☐underserved

a) Was the experience (1)☐voluntary? (2)☐required?

b) Did this influence your choice of medical specialty? **NO:** (0)☐ **Yes:** (1)☐

13) Please describe the city/town where you grew up:

a) The community is: (1)☐Large metropolitan area (3)☐Small city or large town

(2)☐Medium-sized city (4)☐Rural, farm, reservation

b) The name of the community is:_____; The state or province is:_____.

14) What sources did you use to finance your medical school education? (check all that apply)

☐Family loans ☐ Loans other than family ☐Health Professions Student Loan

☐National Health Service Corps. ☐Work/spouse's work ☐Savings

☐Scholarships ☐Other (describe)_____

15) Approximately how much have you borrowed to pay for your education since entering medical school?

☐Did not borrow ☐$50,000 - $69,000 ☐$110,000 - $129,000

☐Less than $30,000 ☐$70,000 - $89,000 ☐$130,000 - $149,000

☐$30,000 - $49,000 ☐$90,000 - $109,000 ☐more than $149,000 (enter amount) $_____

16) Please rank the importance of each of the following influences by circling one of the rankings.

INFLUENCES ON YOUR CHOICE OF RESIDENCY TRAINING PROGRAM

	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	NOT VERY IMPORTANT	DOES NOT APPLY
1) Length of residency	5	4	3	2	1	9
2) Earnings potential	5	4	3	2	1	9
3) Prestige of the specialty among the medical profession	5	4	3	2	1	9
4) Opportunity to work regular hours after completing training	5	4	3	2	1	9
5) Best match with spouse's career objectives	5	4	3	2	1	9
6) Best match with family's lifestyle objectives	5	4	3	2	1	9
7) Rural rotation	5	4	3	2	1	9
8) Influence of medical school faculty	5	4	3	2	1	9
9) Availability of residency positions in the specialty	5	4	3	2	1	9
10) Availability of practice opportunities	5	4	3	2	1	9
11) Interest in sub-specialty training	5	4	3	2	1	9
12) Educational Debt	5	4	3	2	1	9

17) Which of the influences checked in question 16 was the most important? (enter the number that corresponds to your choice)

_____ (1 – 12)

18) If you were choosing a specialty now, would you have chosen your current specialty?

(1)☐YES (0)☐NO, because_____

_____

19) Are you a U.S. citizen? (1)☐YES (0)☐NO

20) Are you a graduate of the University of Arizona Medical School? (1)☐YES (0)☐NO

21) Are you a graduate of a NON-U.S. medical school? (1)☐YES (answer a) (0)☐NO

a) If YES, in what country was the school located? _____

Please insert your completed survey instrument in the postage paid envelope. Seal the envelope and return it to the Director of your Residency Program.

THANK YOU VERY MUCH FOR CONTRIBUTING TO A BETTER UNDERSTANDING OF GRADUATE MEDICAL EDUCATION. YOU CAN RECEIVE ONE FREE COPY OF THE RESEARCH REPORT THAT USE THE DATA FROM THE ANNUAL CENSUS OF RESIDENTS BY EMAILING Anthony.Garcy@asu.edu or Mary.Rimsza@asu.edu

DESIGNATED SPECIALTY CODES

	HOSPITAL
AN	Anesthesiology
CCM	Critical Care Medicine
EM	Emergency Medicine
HOS	Hospitalist
PTH	Pathology
PNE	Pediatric Anesthesiology
RO	Radiation Oncology
R	Radiology
	PEDIATRICS
NPM	Neonatology
PDC	Pediatric Cardiology
PDE	Pediatric Endocrinology
PDG	Pediatric Gastroenterology
PHO	Pediatric Hematology-Oncology
PDI	Pediatric Infectious Diseases
PNP	Pediatric Nephrology
PDP	Pediatric Pulmonary Disease
	PRIMARY CARE
FP	General/Family Practice
GER	Geriatrics
IM	Internal Medicine
PD	Pediatrics
	MEDICAL
A	Allergy
CD	Cardiovascular Diseases
D	Dermatology
END	Endocrinology
GE	Gastroenterology
HEM	Hematology
ID	Infectious Diseases
NEP	Nephrology
N	Neurology
ON	Oncology
PUD	Pulmonary Diseases
RHU	Rheumatology
	OTHER SPECIALTIES
ACU	Acupuncture
ADM	Administrative Medicine
ADL	Adolescent Medicine
AM	Aerospace Medicine
CMD	Chemical Dependency
CHP	Child Psychiatry
PA	Pharmacology, Clinical

	OTHER SPECIALTIES
GEN	Genetics
GYN	Gynecology
HEP	Hepatology
INT	Intern
LM	Legal Medicine
TOX	Medical Toxicology
NM	Nuclear Medicine
NTR	Nutrition
PNC	Pain Control
PM	Physical Medicine & Rehabilitation
PHP	Preventive Medicine-Public Health/Preventive Medicine
P	Psychiatry
PH	Public Health
OM	Occupational Medicine
OMM	Osteopathic Manipulative Medicine
OS	Other Specialty
REN	Reproductive Endocrinology
RES	Research
SM	Sports Medicine
UM	Underseas Medicine & Hyperbaric Medicine
VM	Vascular Medicine
	SURGICAL
CDS	Cardiovascular Surgery
CRS	Colon & Rectal Surgery
GS	General Surgery
HS	Hand Surgery
MFS	Maxillofacial Surgery
NS	Neurological Surgery
OBS	Obstetrics
OPH	Ophthalmology
ORS	Orthopedic Surgery
OTO	Otolaryngology
PDS	Pediatric Surgery
NSP	Pediatric Neurosurgery
OP	Pediatric Orthopedics
PO	Pediatric Ophthalmology
PDO	Pediatric Otolaryngology
UP	Pediatric Urology
PS	Plastic Surgery
PRO	Proctology
SO	Surgical Oncology
TS	Thoracic Surgery
TTS	Transplant Surgery
U	Urological Surgery
VS	Vascular Surgery

New Physician Survey

Please complete the survey below and return with your application for licensure.

Applicant Name _____

1. I'm applying for an Arizona license because: (select the three most important reasons from the "Reason for Applying for an AZ License": see box)

_____ _____ _____
Reason #1 Reason #2 Reason #3

REASON FOR APPLYING FOR AN AZ LICENSE
1. Completed a residency.
2. Considering retirement.
3. Bought into practice/became partner.
4. Opportunity to serve an underserved group.
5. Malpractice expenses too high in current practice state.
6. Position ended.
7. Too much paperwork.
8. To change the scope of practice.

2. Please indicate which of the following was important in influencing you to practice in Arizona. Circle **one** code number after each factor.

Factor	Important	Not Important	Does Not Apply
1. Grew up in the area	1	2	3
2. Personal ties in the community	1	2	3
3. Professional contacts	1	2	3
4. Characteristic of the community	1	2	3
5. Financial advantages	1	2	3
6. The opportunity to serve a particular group of people	1	2	3
7. Best professional opportunity available	1	2	3
8. Recruited by colleagues	1	2	3
9. Availability of adequate hospital facilities	1	2	3
10. Influence of Spouse	1	2	3
11. Location of military service	1	2	3
12. Location of residency	1	2	3
13. Earnings potential	1	2	3
14. Work environment/hours of work	1	2	3

15. If other important factor, specify_____

_____

_____

3. Please list the code number from the list above which represents the SINGLE most important reason that influenced you to practice in Arizona.____

4. I am moving **to** (city/town)_____, Arizona **from** (city/town)_____ (state/country)_____.

Practicing Physician Survey

Arizona License Number: _____ Name _____

A. My practice in 1998 and my current practice can be **BEST** described as (**check no more than two in each column**):

	In 1998		**Current**
	Not in Active Practice: Fully Retired		Not in Active Practice: Fully Retired
	Semi-Retired / On Leave		Semi- Retired / On Leave
	Group Practice		Group Practice
	Solo Practice		Solo Practice
	Hospitalist		Hospitalist
	Non-Profit Community Health Center		Non-Profit Community Health Center
	Government (VA, IHS, Public Health)		Government (VA, IHS, Public Health)
	Administrative Medicine		Administrative Medicine
	Academic/Teaching/Research		Academic/Teaching/Research
	In training (med school, intern, resident, fellow)		In training (med school, intern, resident, fellow)

B. My employment in 1998 and current can best be described as

	In 1998		**Current**
	Self-employed		Self-Employed
	Employee		Employee

C. My primary compensation is **BEST described as (check only one in each column)**

	In 1998		**Current**
	Base Salary/Straight Salary		Base Salary/Straight Salary
	Salary plus incentive		Salary plus incentive
	Production based		Production based

If **completely retired**, date of retirement _____ if **completely retired** this is the end of the survey, otherwise, please continue:

D. I usually work _____ days per week (Mon- Fri) and _____ days per weekend (Sat-Sun)

E. I usually work _____ hours per day during the week (Mon-Fri) and _____ per day on the weekend (Sat-Sun)

F. I usually work _____ weeks per year and _____ weekends per year

G. I usually treat _____ patients in a typical week and _____ patients on a typical weekend.

H. I can provide adequate care, without using a translator, to patients who speak the following languages:
(check all that apply):

	English		French		Chinese		Hindi
	Spanish		Vietnamese		Arabic		Tagalog

I. What percent of your work time in a typical week is spent on each of the following?(Insert 0 if none)

1) Providing primary care to non-specialty patients _____ %
2) Providing primary care to continuing specialty patients _____ %
3) Providing specialty care only _____ %
4) Management of practice _____ %
5) Other _____ %

100%

Emergency Medical Services Access Task Force

Medical Liability Update

October 25, 2006

MICA

- Formed and financed by Arizona's physicians
- Enabling legislation allowed a first year surplus requirement of $1mm
- MICA insured members for the first $100k
- JUP was excess for $1mm/3mm
- JUP's ~$12 mm in liabilities later transferred to Skandia along with $16mm in assets. Skandia has since paid over $46 mm on those liabilities
- Since inception, MICA has been an admitted Arizona carrier subject to the laws of Arizona and the oversight of the DOI . . . just like all other admitted carriers

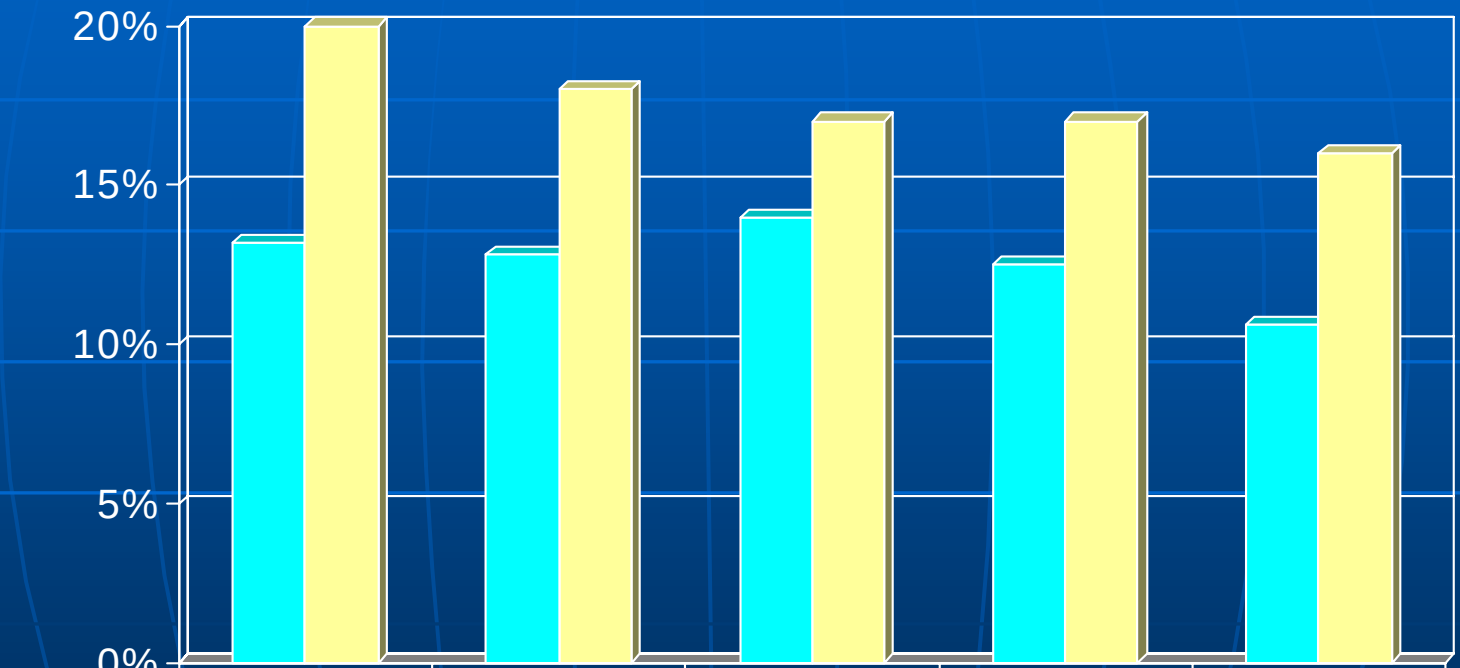
MICA's Goals are to:

- Provide medical professional liability insurance at *actuarially sound rates* to *all* medical specialties;
- Minimize rates through careful risk selection, member education and claims management;
- Utilize investment income to approximate a "breakeven" return while allowing surplus growth that reflects premium growth;
- Ensure the long term financial viability of the company and long-term protection of our members and their patients; and
- Return reserves to policyholders in the form of dividends as warranted by claims' development.

MICA is working to reduce losses *while retaining* currently insured members

- Mandatory census to better understand risks
- Mandatory risk audit *and* implementation of recommendations for identified insured members
- Mandatory risk management education for all newly insured physicians
- Risk management education programs – live programs, audio programs, print periodicals, and internet based learning . . . all providing CME credits.
- Communication workshops
- Risk management seminars for office staffs

MICA's Prudent Management Protects its Members Underwriting Expense Ratio

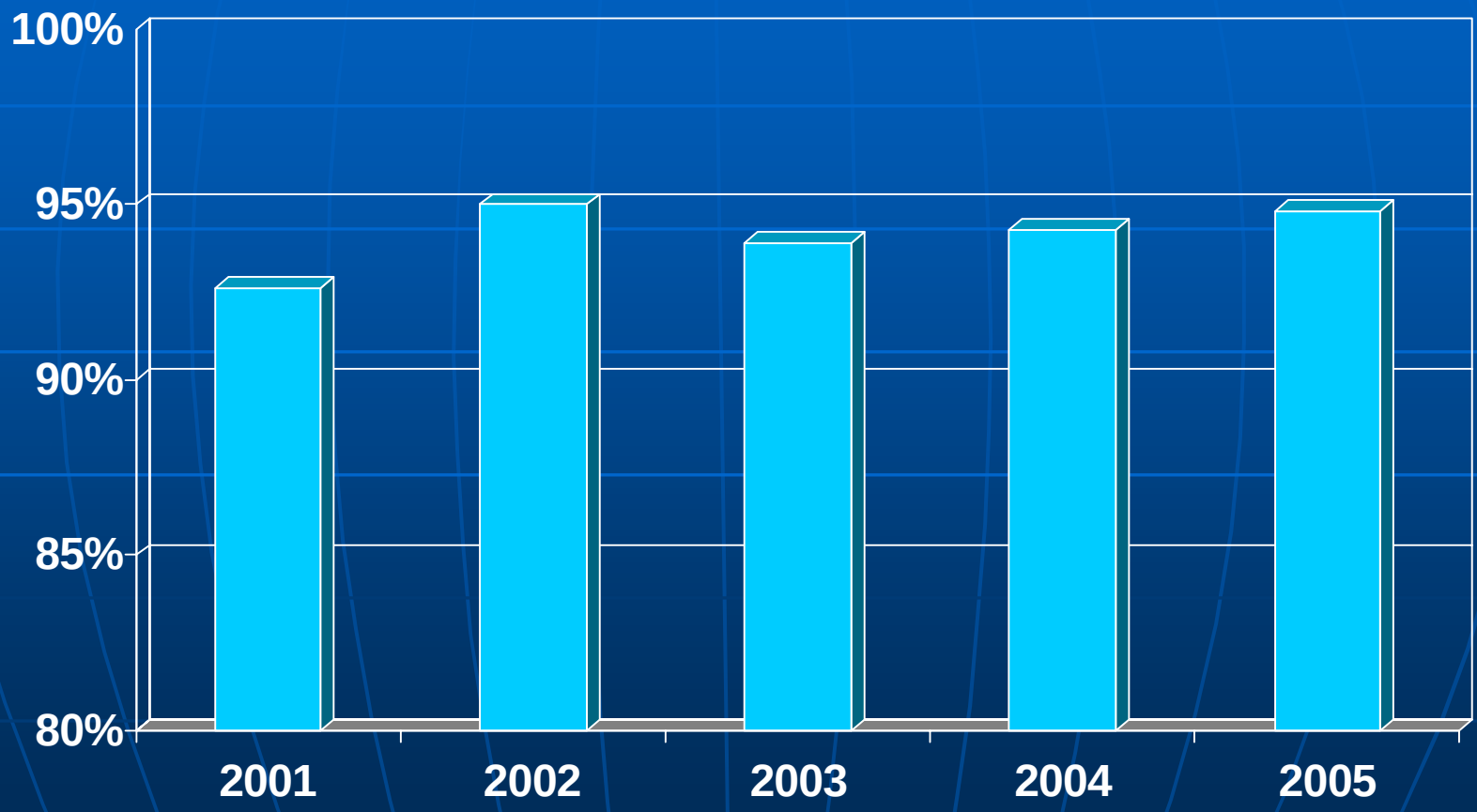


	2001	2002	2003	2004	2005
MICA	13.2%	12.8%	14.0%	12.5%	10.6%
PIAA	22%	18%	17%	17%	16%

PIAA – Physician Insurers Association of America

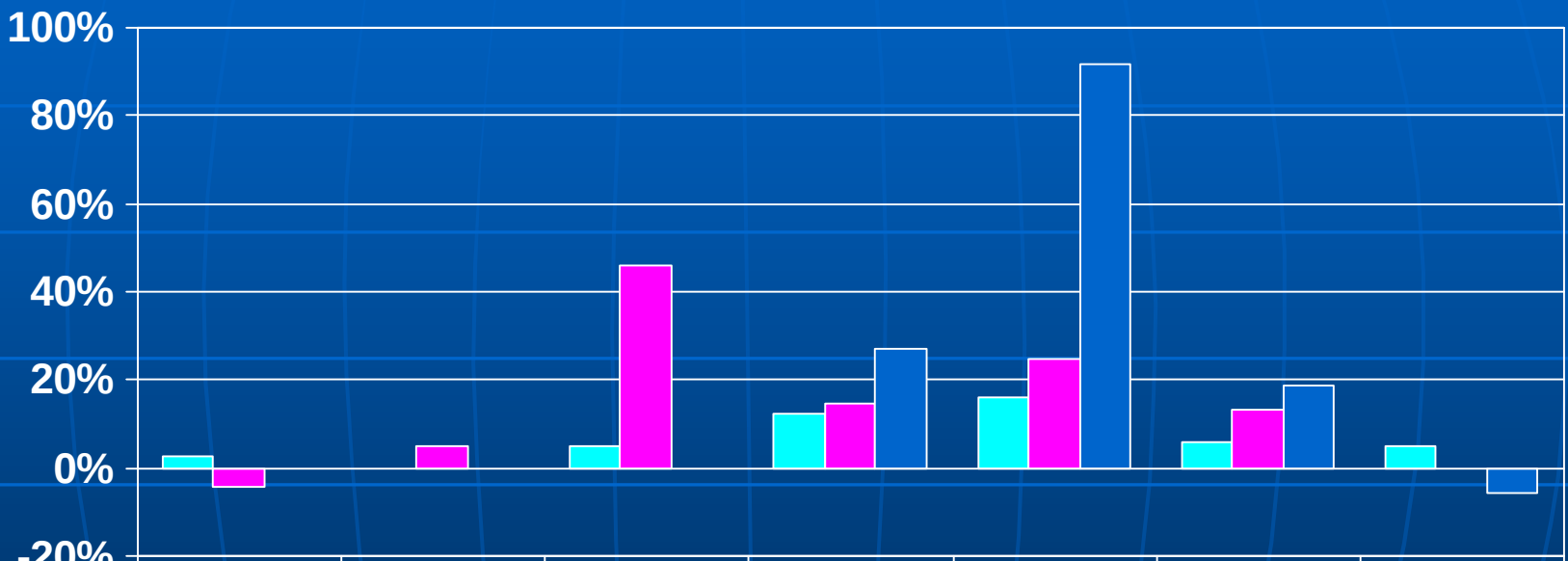
MICA's Prudent Management Protects its Members

Percent of Assets in Interest Bearing Securities



Less than 8% of assets are in equities

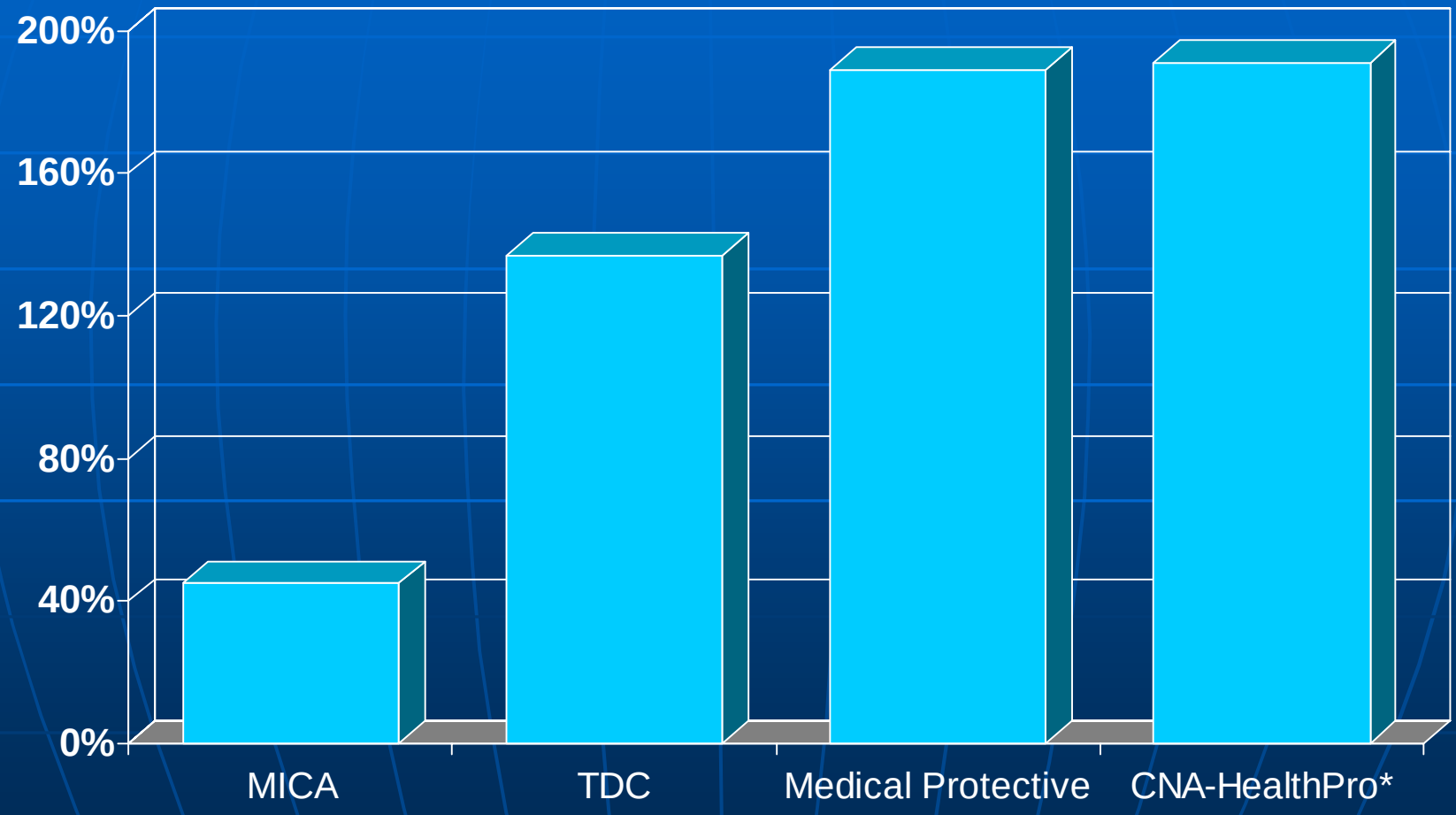
Average premium adjustments
MICA
Medical Protective
The Doctors Company



	2000	2001	2002	2003	2004	2005	2006
MICA	2.5%	0.0%	5.0%	12.5%	16.0%	6.0%	5.0%
TDC	-4.5%	5.0%	45.9%	14.8%	24.9%	13.4%	0.0%
Med Pro	0.0%	0.0%	0.0%	27.0%	91.7%	18.7%	-5.7%

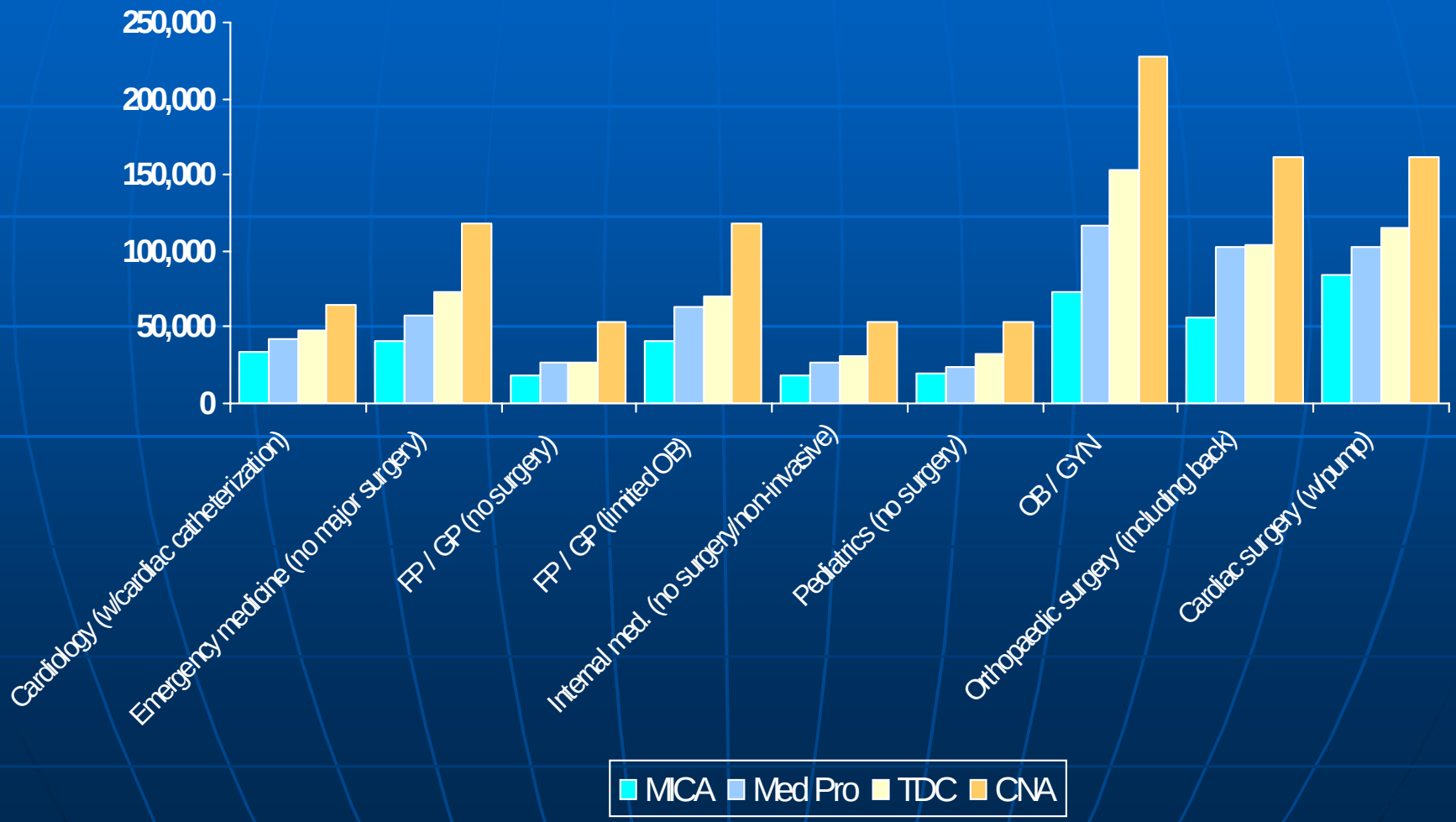
On average, *today* MICA's un-weighted average rate is 56% below CNA, 38% below TDC, and 33% below Medical Protective

Overall Average Premium Increases Arizona: 2002 through 2005



CNAHealthPro's rate increase occurred in one year

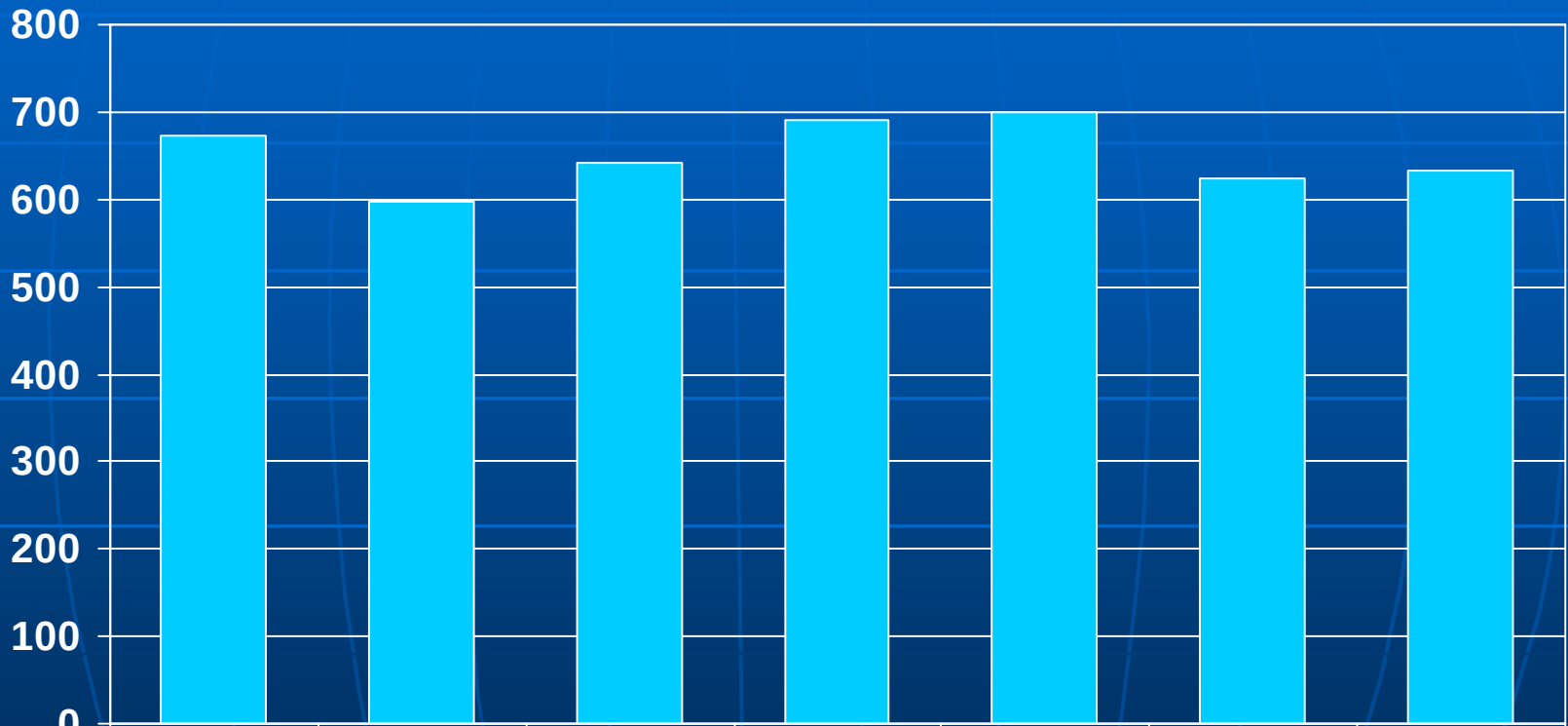
Arizona Rate Comparisons - Representative Specialties 2006



Alternatives

- Over 55 companies with assets >$3 mm have formed since 2002
  - $506 mm premium against $278 mm in surplus
  - Under-pricing 10% reduces surplus 18%
- In Arizona, the following are examples of carriers offering non-assessable policies
  - CARE RRG
  - Oceanus RRG
  - PIRRGA - Pediatricians Insurance RRG of America
  - AMS RRG - Applied Medico-Legal Solutions RRG
  - EMPAC RRG - Emergency Medical Professional Assurance Company RRG
  - EPIC - Emergency Physicians Insurance Co. RRG
  - MedAmerica Mutual RRG

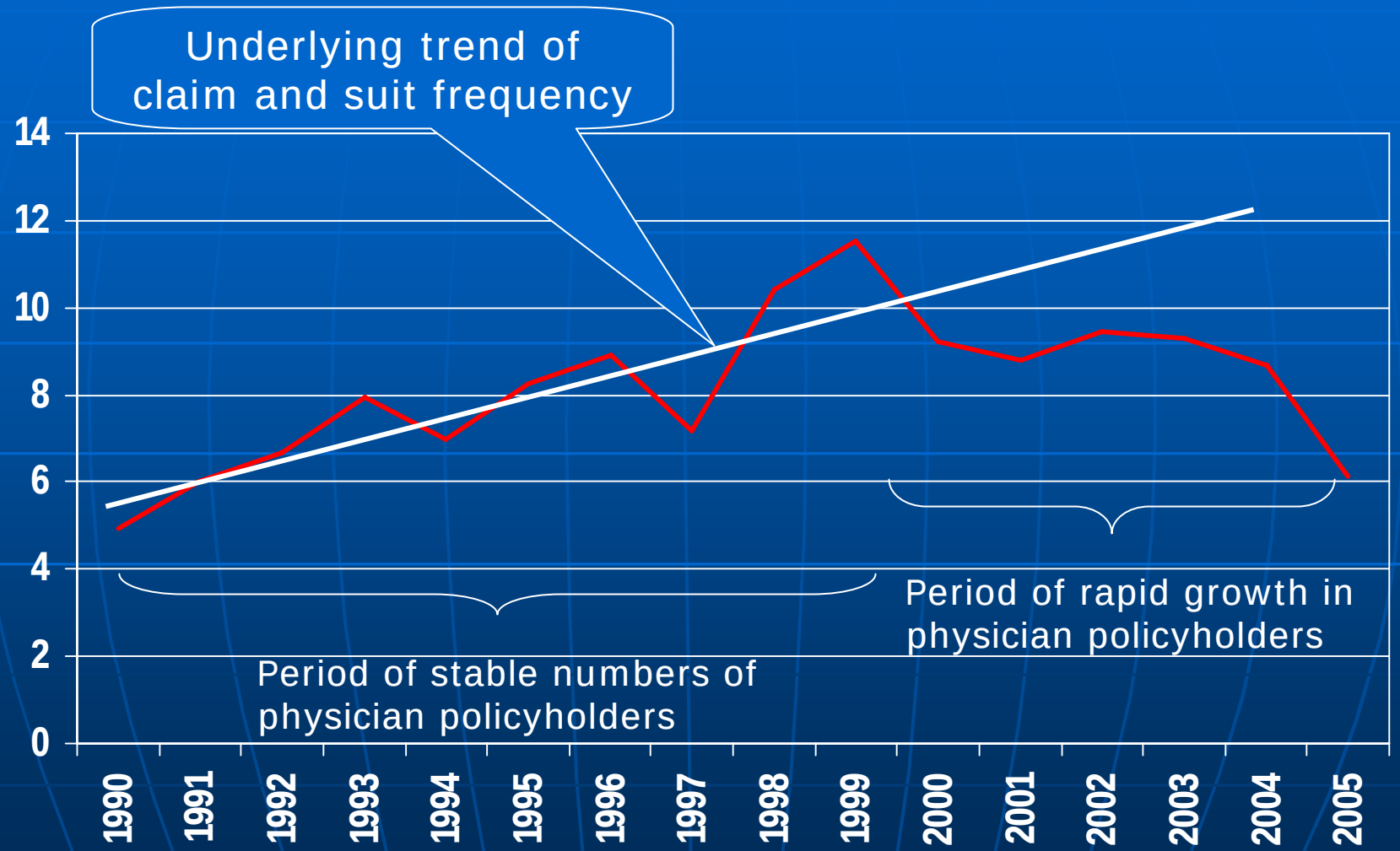
Superior Court
Medical Malpractice Filings



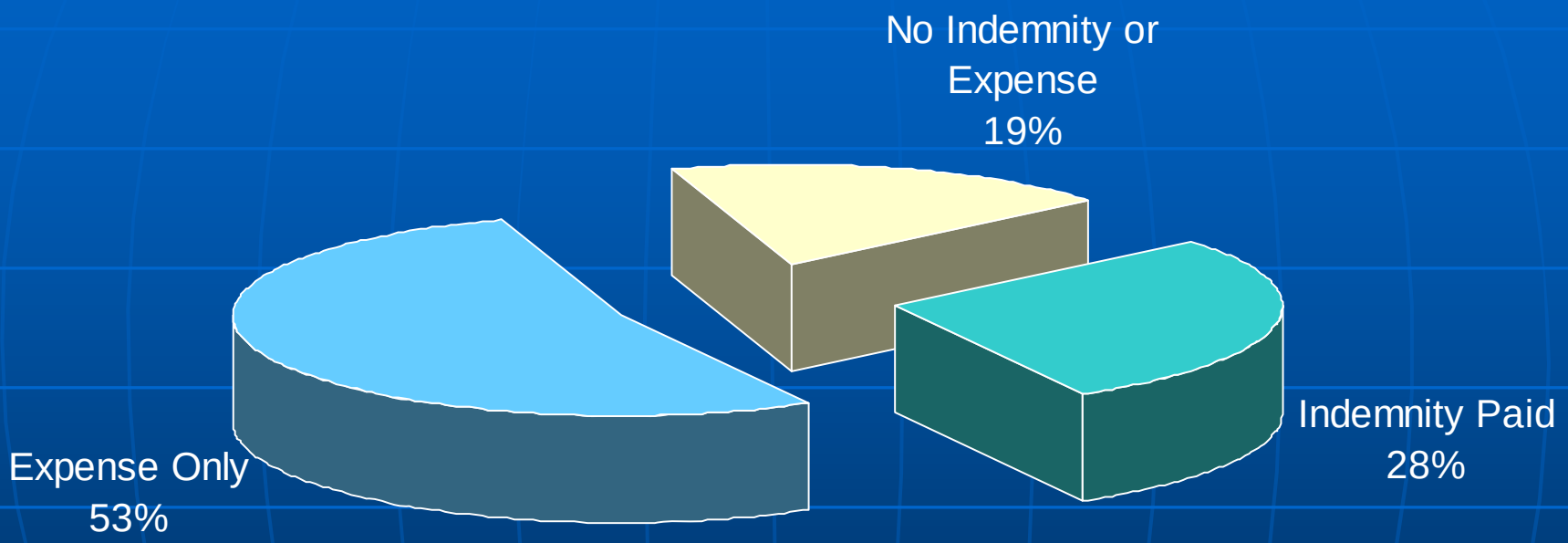
	1999	2000	2001	2002	2003	2004	2005
Arizona	672	597	641	690	699	625	632

Arizona Supreme Court, Court Services Division, Research & Statistics

Claims & Suits per 100 Insured Physicians

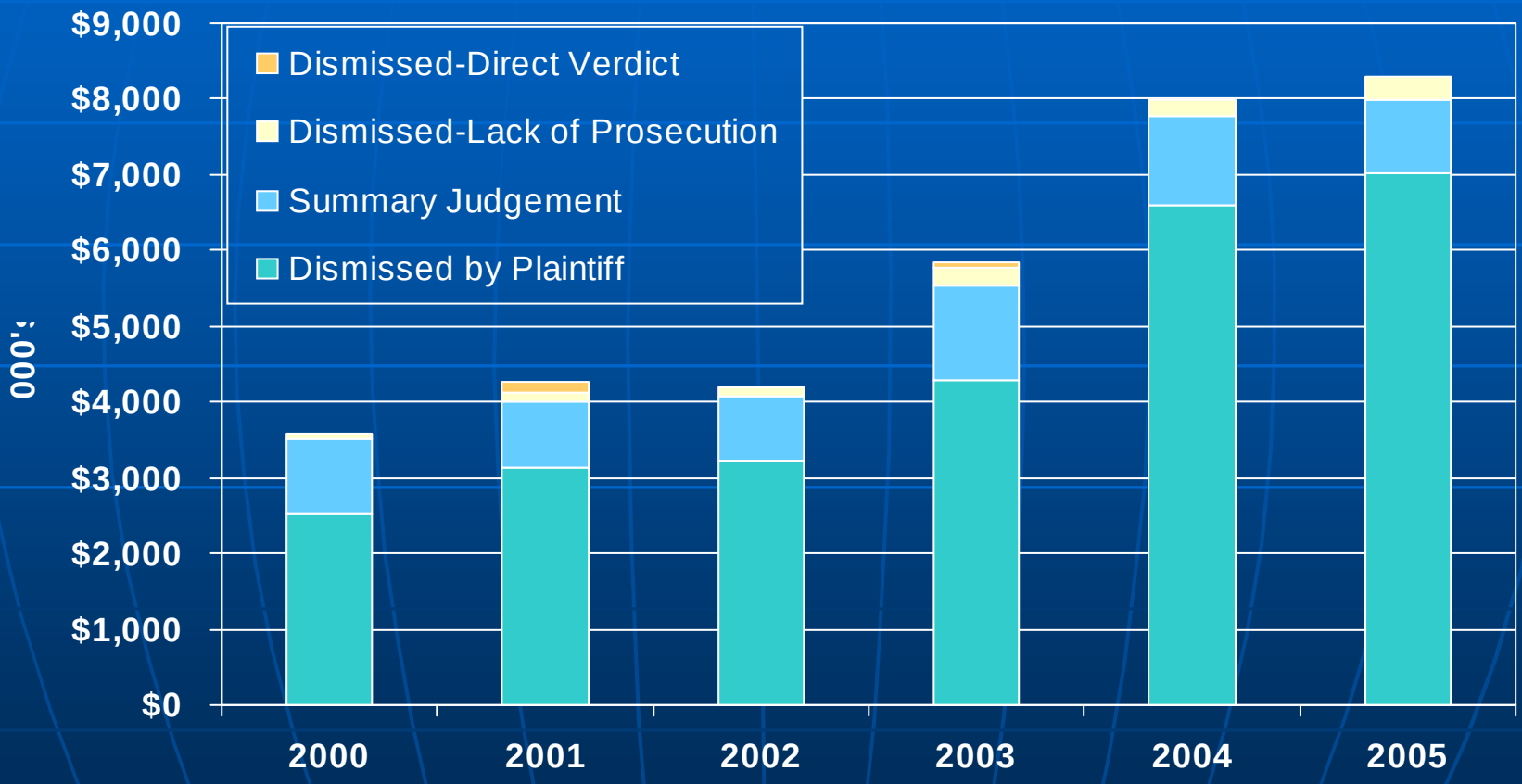


Results: Suits and Active Claims



In Maricopa County over the past five years physicians were exonerated in 81.5% of the suits that went through trial to verdict . . . But the *average* cost to defend, over $141,000 per defendant, is extremely high

Expense to gain dismissal of a non-meritorious suit



Trials to verdict are excluded

Average Payment for Claims Closed with an Indemnity Payment - MICA

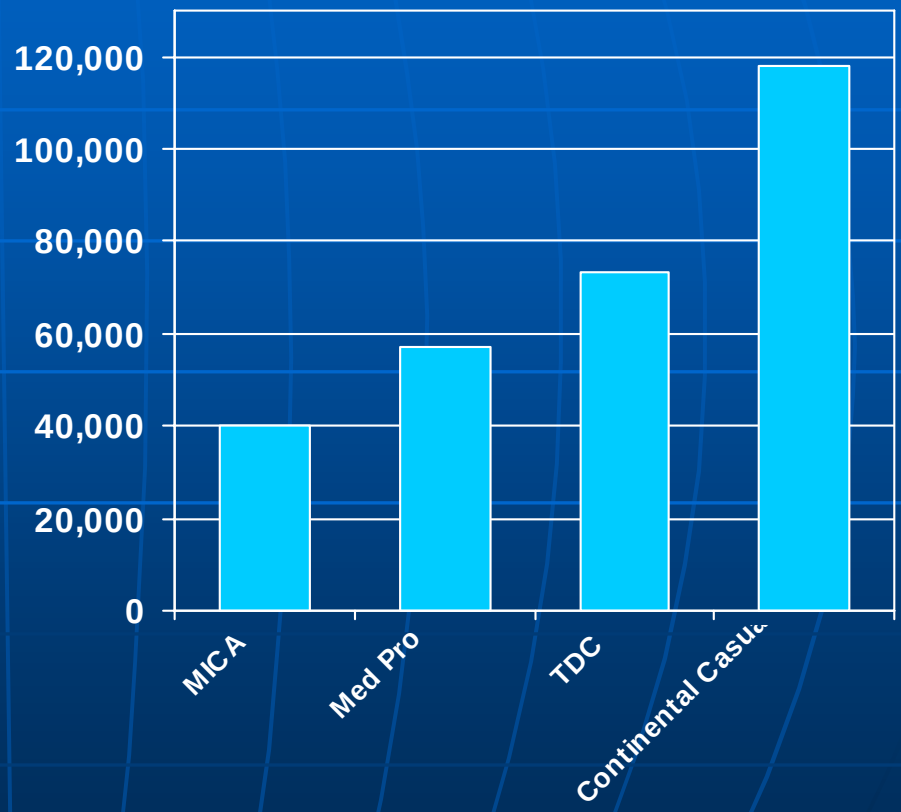
81.6% increase between 1999 and year end 2004 . . . an average increase of 11.4% per year. But year end 2005, an 11.1% decrease from 2004

Emergency Department

- MICA insures a minority of Arizona's ED physicians – approximately 300
- Coverage alternatives include . . .
  - National affiliations of ED groups
  - Emergency Physician RRGs such as EPIC, EMPAC and MedAmerica Mutual
  - ED physicians insured with or by the hospital (MICA no longer insures hospitals)
- MICA continues to insure on-call physicians covering the ED
- MICA does not charge an additional premium for physicians taking call in the ED, nor does MICA provide a discount for those who do not take call

Emergency Physicians' Premium

- MICA's premium for ED physicians is lower than other admitted carriers
- ED physicians with MICA pay the same as FPs delivering low risk babies
- RRGs are not required to file rates and are free to charge variable premiums



The most frequent allegations . . . .

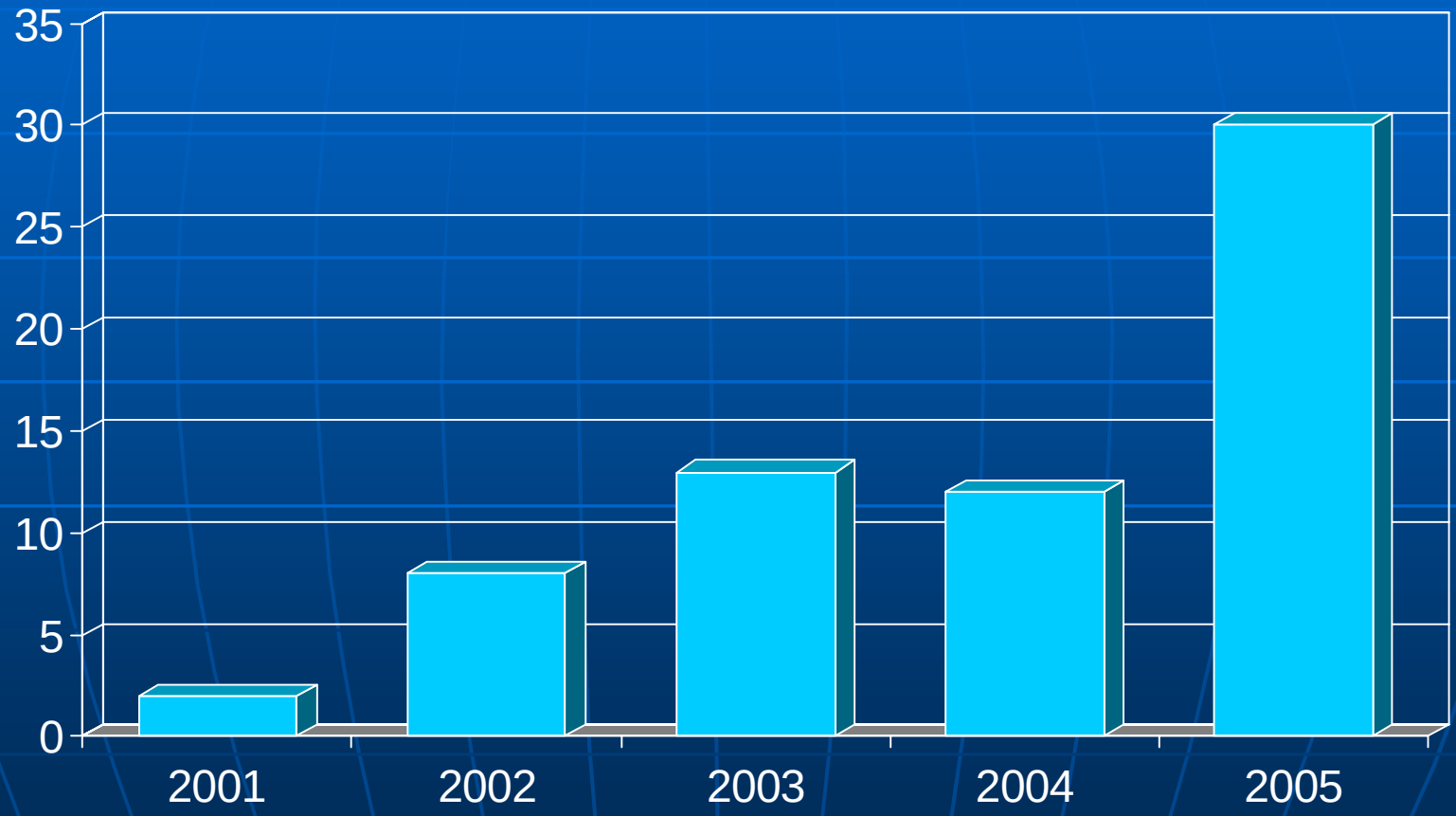
- Failure to properly diagnose
- Delay in diagnosis
- Improper treatment (usually based on delay or failure to diagnose)

- And little wonder:
  - Full evaluation of all patients is required
  - Overcrowding and uneven patient flow
  - Mixing the worried well, the truly sick and those looking for basic primary care
  - Lack of patient historical information
  - Lack of personal, developed patient rapport
  - Lack of personal follow-up

The Airline Analogy

- Aircraft safety has often been suggested as a model for medicine to follow, but put that model into context. Try to imagine
  - mandating every aircraft approaching an airport be allowed to land regardless of weather or time of day,
  - no scheduling of arrivals
  - mixing heavy transports with the weekend fliers and ultra-lights without restriction,
  - mandating that every pilot in every plane receive all services
  - closing every other airport, and
  - allowing all languages to be spoken with no requirement for a common language.
- Would there be more accidents?

Frequency of an Allegation of Injury in the E.D. is *increasing dramatically*



Excludes claims and suits under a hospital policy

Would Tort Reform Help?

- According to the Oct 2006 issue of the ABA Journal suit filings are down ~55% in Texas since 2003
- According to the licensing board in Texas, in 2005, 4,500 physicians applied for licensure, up 45% from the preceding year
- The issue of access to care in the ED is complex and no single solution will resolve the worsening crisis
- One proposal before this committee, changing the evidentiary standard for care provided pursuant to EMTALA, will not by itself solve the problem – *but it may help*!